PIONEER®
The Art of Entertainment

Service Manual

DEH-P945R/EW

ORDER NO.
CRT2207

MULTI-CD/MD/DAB CONTROL DSP HIGH POWER CD PLAYER WITH RDS TUNER

DEH-P945R EW

MULTI-CD/MD/DAB CONTROL DSP CD PLAYER WITH RDS TUNER

DEX-P99R EW

COMPACT disc DIGITAL AUDIO

- **See the separate manual CX-680(CRT2216) for the CD mechanism description, disassembly and circuit description.**
- **The CD mechanism employed in this model is one of H1 series.**

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● **CD Player Service Precautions**

1. For pickup unit(CXX1290) handling, please refer to"Disassembly"(CX-680 Service Manual CRT2216). During replacement, handling precautions shall be taken to prevent an electrostatic discharge(protection by a short pin).
2. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.
3. Please checking the grating after changing the service pickup unit(see page 81).

1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

1. Safety Precautions for those who Service this Unit.

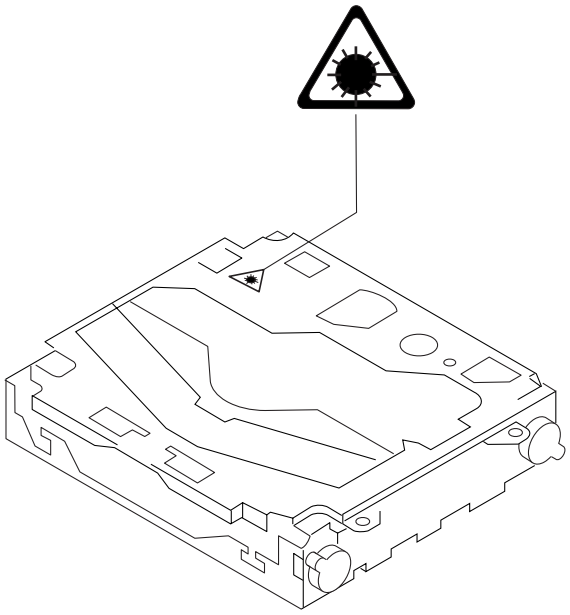
- **When checking or adjusting the emitting power of the laser diode exercise caution in order to get safe, reliable results.**

Caution:

1. During repair or tests, minimum distance of 13cm from the focus lens must be kept.
2. During repair or tests, do not view laser beam for 10 seconds or longer.

2. A "CLASS 1 LASER PRODUCT" label is affixed to the rear of the player.

3. The triangular label is attached to the mechanism unit frame.

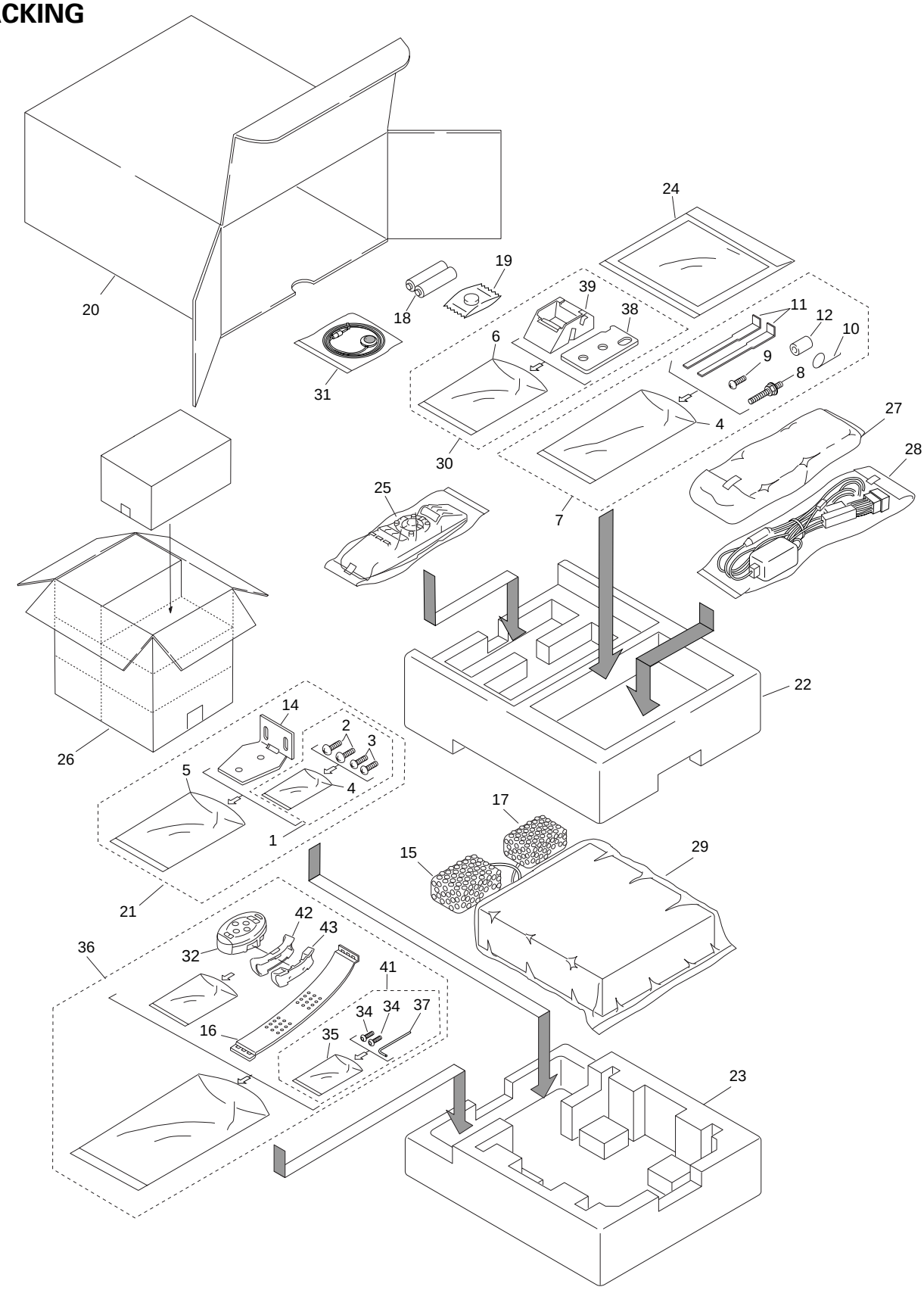


4. Specifications of Laser Diode

Specifications of laser radiation fields to which human access is possible during service.
Wavelength = 800 nanometers

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING



NOTE:

- Parts marked by "*"are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ∇ mark on the product are used for disassembly.

● PACKING SECTION PARTS LIST

(1) PARTS LIST

Mark	No.	Description	Part No.
	1	Screw Assy	CZE3198
	2	Screw	BNC40P120FZK
	3	Screw	BPZ30P100FZK
*	4	Polyethylene Bag	CEG-127
*	5	Polyethylene Bag	CZE3201
	6	Polyethylene Bag	CZE3188
*	7	Accessory Assy	CEA2429
	8	Screw	CBA1002
	9	Screw	CBA1120
	10	Spring	CBH-865
	11	Handle	CNC5395
	12	Bush	CNV1917
*	13	Polyethylene Bag	E36-615
	14	Bracket	CZN6467
	15	Air Cushioned Bag	CEG1080
	16	Belt	CZN6416
	17	Air Cushioned Bag	CEG1192
	18	Battery	CEX1006
	19	Battery	CEX1030
	20	Carton	See Contrast table(2)
	21	Bracket Assy	CEA2346
	22	Protector	CHP2089
	23	Protector	CHP2090
	24-1	Owner's Manual	CRD2727
	24-2	Owner's Manual	CRD2728
	24-3	Owner's Manual	CRD2729
	24-4	Installation Manual	CRD2655
	24-5	Installation Manual	CRD2656
	24-6	Installation Manual	CRD2657
	24-7	Polyethylene Bag	CEG1116
	25	Remote Control Assy	CXB2660
	25-1	Polyethylene Bag	CEG1011
	26	Contain Box	CHD2637
	27	Case Assy	CXA7194
	28	Cord Assy	See Contrast table(2)
	29	Cover	CEG1088
	30	Base Assy	CEA2426
	31	Microphone Assy	CPM1022
	32	Remote Control Assy	CZX3218
	33	•••••	
*	34	Screw	RMZ30H060FBK
*	35	Polyethylene Bag	CEG-127
	36	Remote Control Assy	CXB2636
*	37	Hexagonal Wrench	CZE3176
	38	Sheet	CZA3371
	39	Base	CNS5031
	40	•••••	
	41	Screw Assy	CZE3169
	42	Holder Assy	CZX3172
	43	Holder Assy	CZX3173

● **Owner's Manual**

Model	Part No.	Language
DEH-P945R/EW	CRD2652	English, Spanish
	CRD2653	German, French
	CRD2654	Italian, Dutch
DEX-P99R/EW	CRD2727	English, Spanish
	CRD2728	German, French
	CRD2729	Italian, Dutch

● **Installation Manual**

Model	Part No.	Language
DEH-P945R/EW, DEX-P99R/EW	CRD2655	English, Spanish
	CRD2656	German, French
	CRD2657	Italian, Dutch

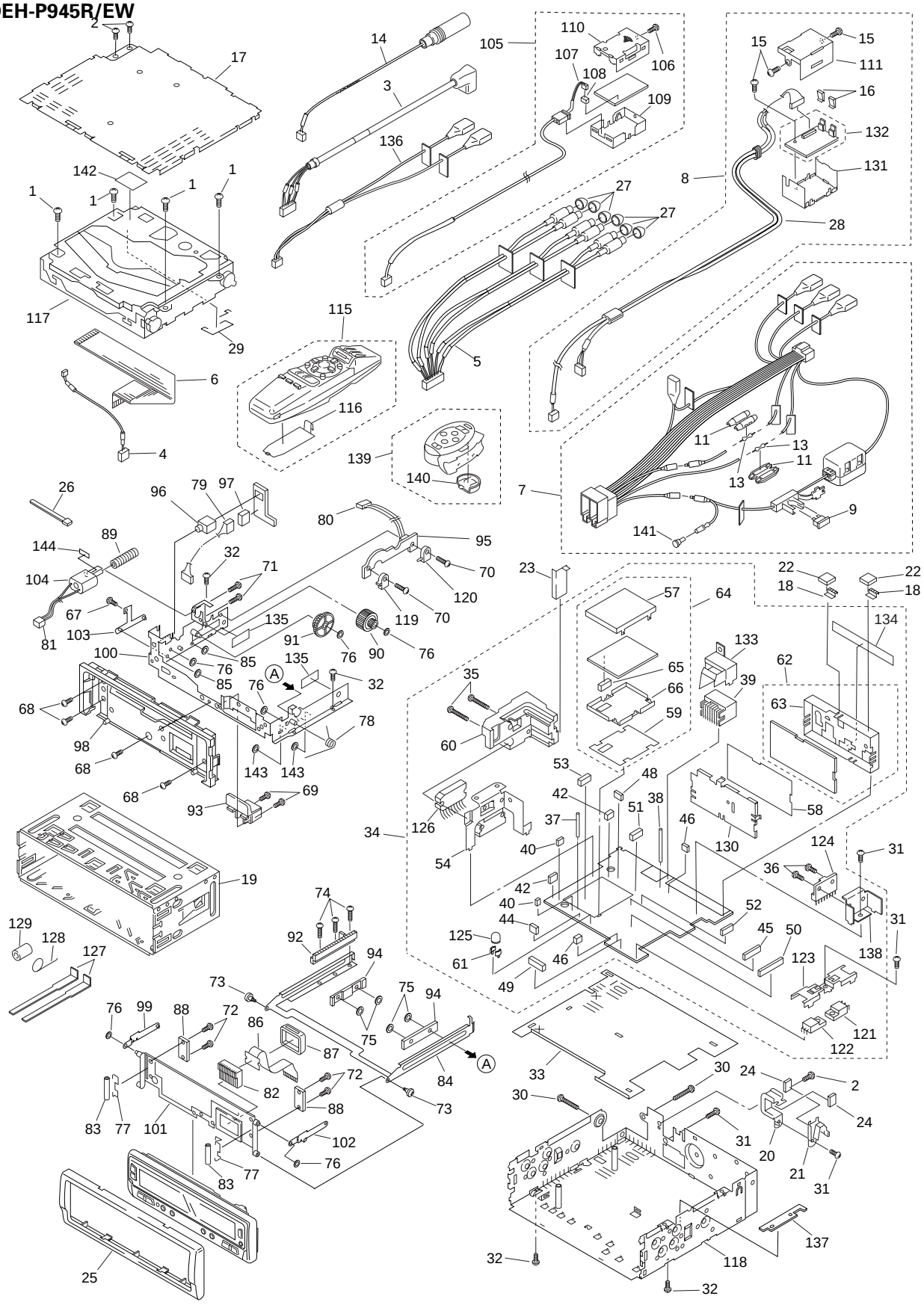
(2) CONTRAST TABLE

DEH-P945R/EW and DEX-P99R/EW are constructed same except for the following:

		Part No.	
Mark No.	Symbol and Description	DEH-P945R/EW	DEX-P99R/EW
20	Carton	CHG3534	CHG3533
28	Cord Assy	CDE5730	CDE5657

2.2 EXTERIOR (1)

● **DEH-P945R/EW**



● EXTERIOR (1) SECTION PARTS LIST

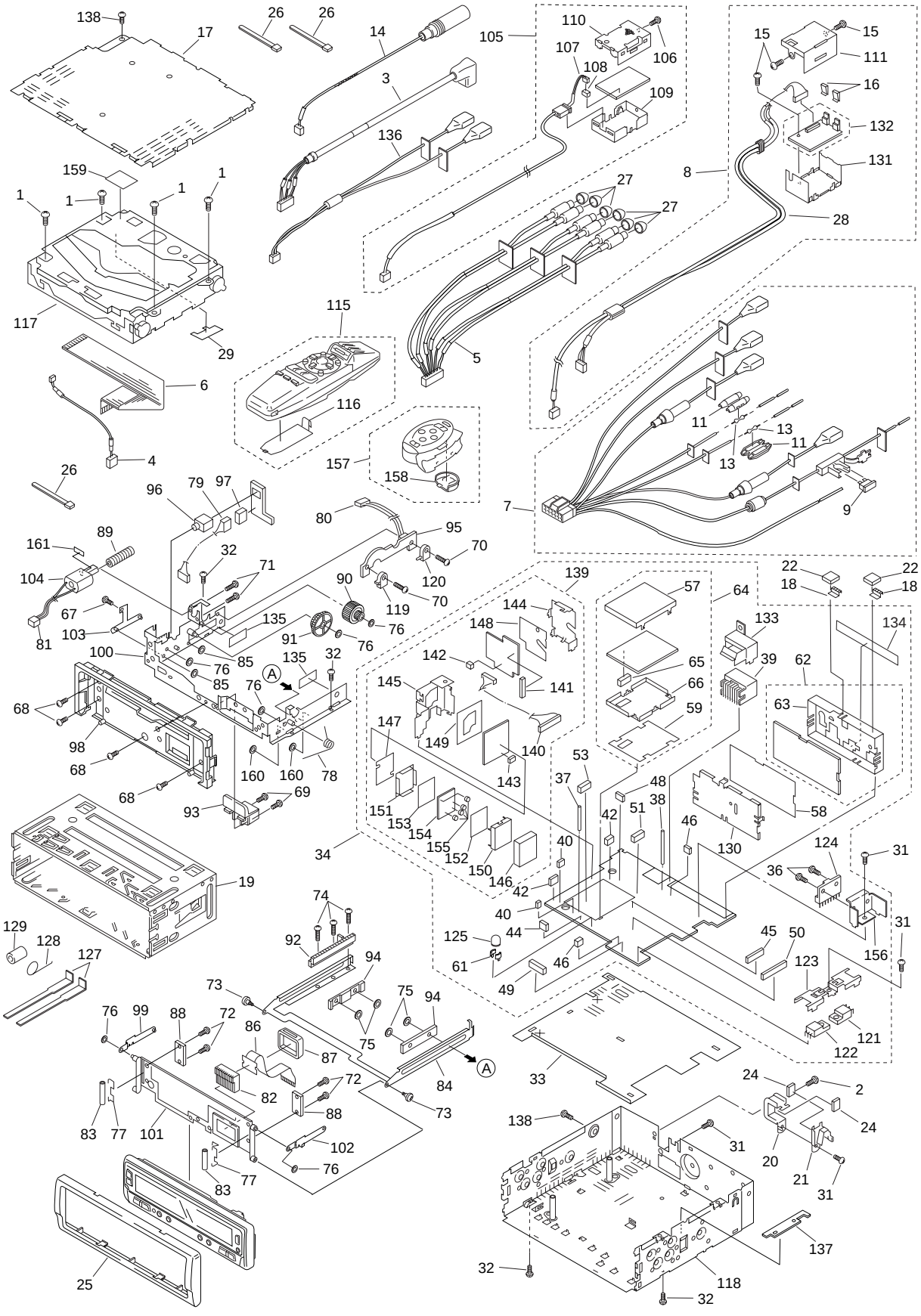
Mark	No.	Description	Part No.
	1	Screw	BSZ26P050FMC
	2	Screw	BSZ30P055FMC
	3	Cord Assy	CDE5785
	4	Cord	CDE5536
	5	Cord Assy	CDE5625
	6	Connector	CDE5543
	7	Cord Assy	CDE5730
	8	Inverter Assy	MWM9028
	9	Fuse	CEK1136
	10	•••••	
	11	Cap	CNS1472
	12	Choke Coil	CTH1127
	13	Resistor	RS1/2PMF102J
	14	Antenna Cable	CDH1115
	15	Screw	BSZ26P050FMC
	16	Clip	MBK9001
	17	Case	CNB2278
	18	Earth Terminal	CNC7358
	19	Holder	CNC6798
	20	Holder	CNC7566
	21	Holder	CNC7753
	22	Spacer	CNM4913
	23	Spacer	CNM5793
	24	Cushion	CNM5811
	25	Panel	CNS4553
*	26	Lock Tie	CNV-754
	27	Cap	CNV2680
	28	Cord	MDE9012
	29	Spacer	CNM5997
	30	Screw	BMZ30P180FMC
	31	Screw	BSZ26P080FMC
	32	Screw	CBA1447
	33	Insulator	CNM5627
	34	Tuner Amp Unit	CWM5696
	35	Screw	BMZ26P200FMC
	36	Screw	BSZ30P055FMC
	37	Clamper	CEF1008
	38	Clamper	CEF1009
	39	Plug(CN901)	CKM1278
	40	Plug(CN221,851)	CKS-783
	41	•••••	
	42	Plug(CN141,852)	CKS-784
	43	•••••	
	44	Plug(CN131)	CKS-786
	45	Plug(CN101)	CKS1044

Mark	No.	Description	Part No.
	46	Plug(CN451,804)	CKS1222
	47	•••••	
	48	Plug(CN803)	CKS1225
	49	Connector(CN801)	CKS1564
	50	Connector(CN671)	CKS2779
	51	Connector(CN681)	CKS3583
	52	Connector(CN231)	CKS3592
	53	Connector(CN222)	CKS3781
	54	Holder	CNC7554
	55	Holder	CNC7557
	56	Holder	CNC7559
	57	Case	CNC8014
	58	Insulator	CNM4684
	59	Insulator	CNM5626
	60	Heat Sink	CNR1468
	61	Holder	CNV1906
	62	FM/AM Tuner Unit	CWE1416
	63	Holder	CNC6555
	64	DSP Unit	CWX2214
	65	Connector(CN3001)	CKS3782
	66	Case	CNC8015
	67	Screw	BMZ20P030FMC
	68	Screw	BMZ20P030FZK
	69	Screw	BPZ20P060FMC
	70	Screw	CBA1060
	71	Screw	CBA1061
	72	Screw	CBA1082
	73	Screw	CBA1430
	74	Screw	CBA1454
	75	Washer	CBF1038
	76	Washer	CBF1039
	77	Spring	CBH2063
	78	Spring	CBH2086
	79	Cord	CDE5587
	80	Cord	CDE5596
	81	Cord	CDE5597
	82	Socket	CKS2497
	83	Roller	CLA3458
	84	Frame	CNC7548
	85	Spacer	CNM5808
	86	PCB	CNP5065
	87	Cover	CNS4841
	88	Holder	CNV2141
	89	Gear	CNV5271
	90	Torque Limiter Unit	CNV5272

Mark	No.	Description	Part No.
	91	Gear	CNV5273
	92	Rack	CNV5274
	93	Lighting Conductor	CNV5276
	94	Guide	CNV5356
	95	Gathering PCB	CNX2961
	96	Mini Jack(CN4602)	CKN1015
	97	Plug(CN4601)	CKS-786
	98	Panel Unit	CXB2212
	99	Arm Unit	CXB2215
	100	Frame Unit	CXB2216
	101	Holder Unit	CXB2217
	102	Arm Unit	CXB2218
	103	Bracket Unit	CXB2598
	104	Motor	CXM1085
	105	ASL Unit	CWX2216
	106	Screw	BSZ30P055FMC
	107	Cord	CDE5763
	108	Plug(CN4501)	CKS-784
	109	Case	CNB2299
	110	Case	CNB2300
	111	Holder	MNC9008
	112	Holder Assy	CZX3172
	113	Holder Assy	CZX3173
	114	Cover	CZN6410
	115	Remote Control Assy	CXB2660

Mark	No.	Description	Part No.
	116	Battery Cover	CNS5032
	117	CD Mechanism Module(H1)	CXK5101
	118	Chassis Unit	CXB2229
	119	Switch(S951)	CSN1012
	120	Switch(S952)	CSN1022
	121	IC(IC871)	NJM78M05FA
	122	Trangistor(Q992)	2SD2396
	123	Holder	CNC8013
	124	IC(IC941)	PA2024
	125	Lamp(IL801)	CEL1359
	126	IC(IC301)	TDA7386
	127	Handle	CNC5395
	128	Spring	CBH-865
	129	Bush	CNV1917
	130	Holder	CNC8021
	131	Holder	MNC9009
	132	Inverter Unit	MWM9026
	133	Holder	CNC8011
	134	Spacer	CNM5996
	135	Spacer	CNM5988
	136	Cord Assy	CDE5539
	137	Guide Unit	CXB3234
	138	Holder	CNC8012
	139	Remote Control Assy	CZX3218
	140	Cover	CZN6410
	141	Terminal Cover	CKX-003
	142	Cushion	CNM6065
	143	Spacer	CNM6069
	143	Spacer	CNM6093

● DEX-P99R/EW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● EXTERIOR (1) SECTION PARTS LIST

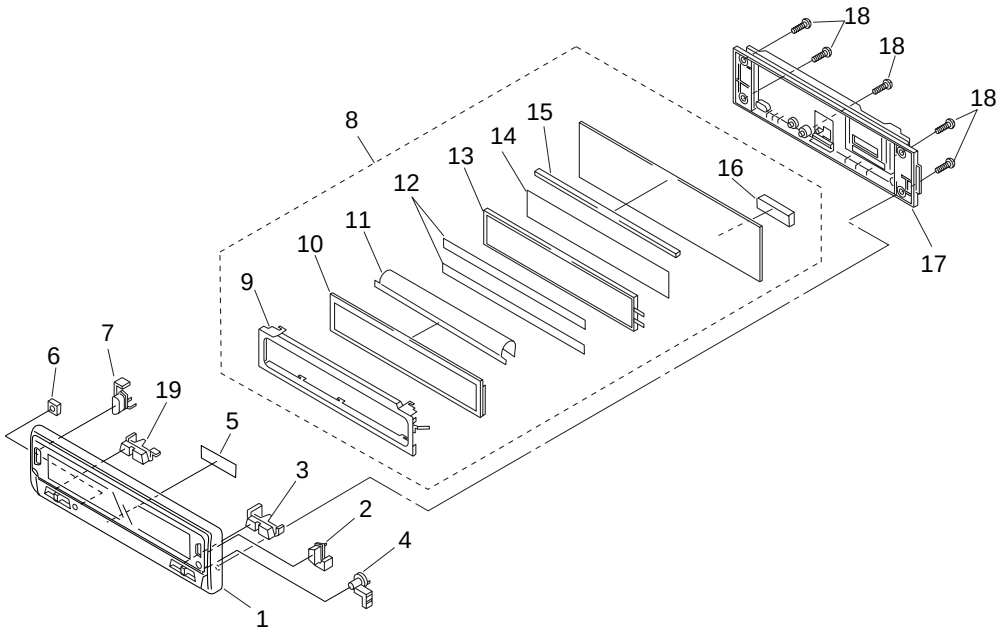
Mark	No.	Description	Part No.
	1	Screw	BSZ26P050FMC
	2	Screw	BSZ30P055FMC
	3	Cord Assy	CDE5785
	4	Cord	CDE5536
	5	Cord Assy	CDE5545
	6	Connector	CDE5543
	7	Cord Assy	CDE5657
	8	Inverter Assy	MWM9028
	9	Fuse	CEK1001
	10	Cover	CKX-003
	11	Cap	CNS1472
	12	Choke Coil	CTH1127
	13	Resistor	RS1/2PMF102J
	14	Antenna Cable	CDH1115
	15	Screw	BSZ26P050FMC
	16	Clip	MBK9001
	17	Case	CNB2279
	18	Earth Terminal	CNC7358
	19	Holder	CNC6798
	20	Holder	CNC7566
	21	Holder	CNC7753
	22	Spacer	CNM4913
	23	•••••	
	24	Cushion	CNM6062
	25	Panel	CNS4553
*	26	Lock Tie	CNV-754
	27	Cap	CNV2680
	28	Cord	MDE9012
	29	Spacer	CNM5997
	30	•••••	
	31	Screw	BSZ26P080FMC
	32	Screw	CBA1447
	33	Insulator	CNM5627
	34	Tuner Amp Unit	CWM5695
	35	•••••	
	36	Screw	BSZ30P055FMC
	37	Clamper	CEF1008
	38	Clamper	CEF1009
	39	Plug(CN901)	CKM1278
	40	Plug(CN221,851)	CKS-783
	41	•••••	
	42	Plug(CN141,852)	CKS-784
	43	•••••	
	44	Plug(CN131)	CKS-786
	45	Plug(CN101)	CKS1044

Mark	No.	Description	Part No.
	46	Plug(CN451,804)	CKS1222
	47	•••••	
	48	Plug(CN803)	CKS1225
	49	Connector(CN801)	CKS1564
	50	Connector(CN671)	CKS2779
	51	Connector(CN681)	CKS3583
	52	•••••	
	53	Connector(CN222)	CKS3781
	54	•••••	
	55	Holder	CNC7557
	56	Holder	CNC7559
	57	Case	CNC8014
	58	Insulator	CNM4684
	59	Insulator	CNM5626
	60	•••••	
	61	Holder	CNV1906
	62	FM/AM Tuner Unit	CWE1416
	63	Holder	CNC6555
	64	DSP Unit	CWX2214
	65	Connector(CN3001)	CKS3782
	66	Case	CNC8015
	67	Screw	BMZ20P030FMC
	68	Screw	BMZ20P030FZK
	69	Screw	BPZ20P060FMC
	70	Screw	CBA1060
	71	Screw	CBA1061
	72	Screw	CBA1082
	73	Screw	CBA1430
	74	Screw	CBA1454
	75	Washer	CBF1038
	76	Washer	CBF1039
	77	Spring	CBH2063
	78	Spring	CBH2086
	79	Cord	CDE5587
	80	Cord	CDE5596
	81	Cord	CDE5597
	82	Socket	CKS2497
	83	Roller	CLA3458
	84	Frame	CNC7548
	85	Spacer	CNM5808
	86	PCB	CNP5065
	87	Cover	CNS4841
	88	Holder	CNV2141
	89	Gear	CNV5271
	90	Torque Limiter Unit	CNV5272

Mark	No.	Description	Part No.
	91	Gear	CNV5273
	92	Rack	CNV5274
	93	Lighting Conductor	CNV5276
	94	Guide	CNV5356
	95	Gathering PCB	CNX2961
	96	Mini Jack(CN4602)	CKN1015
	97	Plug(CN4601)	CKS-786
	98	Panel Unit	CXB2212
	99	Arm Unit	CXB2215
	100	Frame Unit	CXB2216
	101	Holder Unit	CXB2217
	102	Arm Unit	CXB2218
	103	Bracket Unit	CXB2598
	104	Motor	CXM1085
	105	ASL Unit	CWX2216
	106	Screw	BSZ30P055FMC
	107	Cord	CDE5763
	108	Plug(CN4501)	CKS-784
	109	Case	CNB2299
	110	Case	CNB2300
	111	Holder	MNC9008
	112	Holder Assy	CZX3172
	113	Holder Assy	CZX3173
	114	Cover	CZN6410
	115	Remote Control Assy	CXB2660
	116	Battery Cover	CNS5032
	117	CD Mechanism Module(H1)	CXK5101
	118	Chassis Unit	CXB2228
	119	Switch(S951)	CSN1012
	120	Switch(S952)	CSN1022
	121	IC(IC871)	NJM78M05FA
	122	Trangistor(Q992)	2SD2396
	123	Holder	CNC8013
	124	IC(IC941)	PA2024
	125	Lamp(IL801)	CEL1359

Mark	No.	Description	Part No.
	126	•••••	
	127	Handle	CNC5395
	128	Spring	CBH-865
	129	Bush	CNV1917
	130	Holder	CNC8021
	131	Holder	MNC9009
	132	Inverter Unit	MWM9026
	133	Holder	CNC8011
	134	Spacer	CNM5996
	135	Spacer	CNM5988
	136	Cord Assy	CDE5539
	137	Guide Unit	CXB3234
	138	Screw	BMZ30P040FMC
	139	High Out Unit	CWX2215
	140	Cord Assy	CDE5555
	141	Plug(CN4153)	CKS1045
	142	Plug(CN4152)	CKS1613
	143	Plug(CN4051)	CKS1614
	144	Holder	CNC8009
	145	Holder	CNC7556
	146	Shield	CNC8010
	147	Insulator	CNM4760
	148	Insulator	CNM5650
	149	Insulator	CNM5651
	150	Shield	CNC6224
	151	Shield	CNC6274
	152	Insulator	CNM4610
	153	Insulator	CNM4814
	154	D/D Converter Unit	CWM4538
	155	Terminal (CN4001,4002,4003,4004)	CKF1023
	156	Holder	CNC8012
	157	Remote Control Assy	CZX3218
	158	Cover	CZN6410
	159	Cushion	CNM6065
	160	Spacer	CNM6069
	161	Spacer	CNM6093

2.3 EXTERIOR (2)



● EXTERIOR (2) SECTION PARTS LIST

(1) PARTS LIST

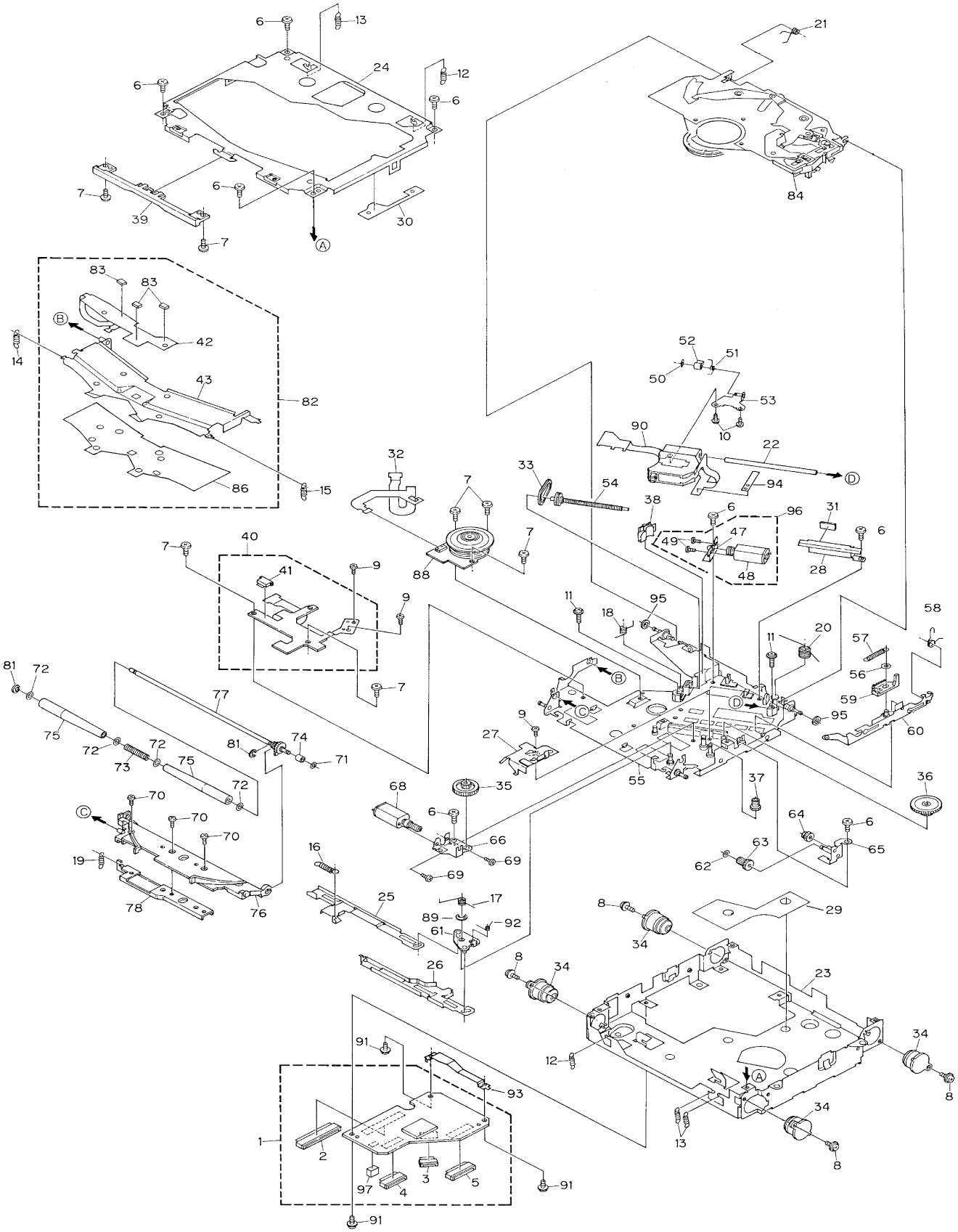
Mark	No.	Description	Part No.
	1	Grille Unit	See Contrast table(2)
	2	Button	CAC5488
	3	Button	CAC5494
	4	Button	CAC5504
	5	Spacer	CNM6021
	6	Spacer	CNM5910
	7	Button	CAC5486
	8	Keyboard Unit	See Contrast table(2)
	9	Holder	CNC7547
*	10	LCD(LCD1901)	See Contrast table(2)
	11	PCB	CNP5063
	12	Spacer	CNM5894
	13	EL(EL1901)	CEL1580
	14	Spacer	CNM5623
	15	Spacer	CNM5622
	16	Plug(CN1901)	CKS2496
	17	Cover Unit	CXB2208
	18	Screw	BPZ20P080FZK
	19	Button	CAC5491

(2) CONTRAST TABLE

DEH-P945R/EW and DEX-P99R/EW are constructed same except for the following:

Mark	No.	Symbol and Description	Part No.	
			DEH-P945R/EW	DEX-P99R/EW
	1	Grille Unit	CXB2203	CXB2202
	8	Keyboard Unit	CWM5688	CWM5687
*	10	LCD(LCD1901)	CAW1471	CAW1493

2.4 CD MECHANISM MODULE



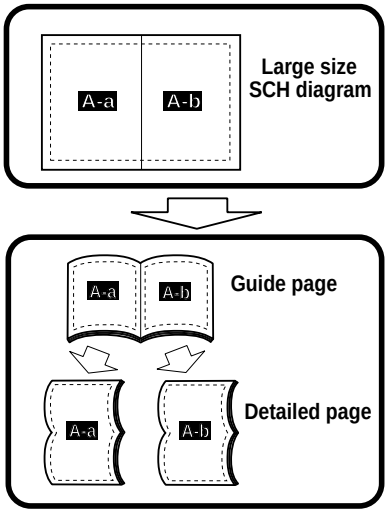
● CD MECHANISM MODULE SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Control Unit	CWX2166
	2	Connector(CN701)	CKS1968
	3	Connector(CN802)	CKS3477
	4	Connector(CN801)	CKS3481
	5	Connector(CN101)	CKS3486
	6	Screw	BMZ20P025FMC
	7	Screw	CBA1037
	8	Screw	CBA1296
	9	Screw	CBA1340
	10	Screw	CBA1362
	11	Screw	CBA1440
	12	Spring	CBH2029
	13	Spring	CBH2030
	14	Spring	CBH2031
	15	Spring	CBH2032
	16	Spring	CBH2033
	17	Spring	CBH2207
	18	Spring	CBH2040
	19	Spring	CBH2041
	20	Spring	CBH2042
	21	Spring	CBH2052
	22	Shaft	CLA3232
	23	Frame	CNC7285
	24	Frame	CNC7286
	25	Lever	CNC7288
	26	Lever	CNC7289
	27	Cover	CNC7294
	28	Cover	CNC7304
	29	Sheet	CNM5401
	30	Sheet	CNM5402
	31	Sheet	CNM5814
	32	PCB	CNP4854
	33	Belt	CNT1082
	34	Damper	CNV4984
	35	Gear	CNV5080
	36	Gear	CNV5081
	37	Gear	CNV5082
	38	Holder	CNV5098
	39	Guide	CNV5352
	40	Mechanism FPC Unit	CWX2191
	41	Connector	CKS3767
*	42	PCB	CNP4852
*	43	Arm	CNC7287
	44	•••••	
	45	•••••	
	46	•••••	
	47	Bracket	CNC7300
	48	Motor Unit	CXB1671
	49	Screw	JFZ14P020FNI
	50	Washer	CBF1037
	51	Spring	CBH2039
	52	Lack	CNV5471
	53	Bracket Unit	CXB1674
	54	Screw Unit	CXB1676
	55	Chassis Unit	CXB3042
	56	Washer	CBF1038
	57	Spring	CBH2035
	58	Spring	CBH2036
	59	Lever	CNV5078
	60	Lever Unit	CXB3207
	61	Arm Unit	CXB1680
	62	Washer	CBF1038
	63	Gear	CNV5083
	64	Gear	CNV5084
	65	Bracket Unit	CXB1682
	66	Bracket	CNC7292
	67	•••••	
	68	Motor Unit(M2)	CXB1684
	69	Screw	JFZ14P020FNI
	70	Screw	CBA1451
	71	Washer	CBF1037
	72	Washer	CBF1060
	73	Spring	CBH2170
	74	Roller	CLA3222
	75	Roller	CNV3412
	76	Arm	CNV5075
	77	Gear Unit	CXB1686
	78	Bracket Unit	CXB2627
	79	•••••	
	80	•••••	
	81	Washer	YE20FUC
	82	Guide Arm Assy	CXB1688
	83	Photo-transistor(P1-3)	CPT-230S-X
	84	Clamp Arm Assy	CXB3137
	85	•••••	
*	86	Sheet	CNM5398
	87	•••••	
	88	Motor(M3)	CXM1129
	89	Washer	YE25FUC
	90	Pickup Unit(Service)(P8)	CXX1290
	91	Screw	IMS20P035FMC
	92	Spring	CBH2206
	93	Bracket	CNC7977
	94	Sheet	CNM6039
	95	Sheet	CNM6055
	96	CRG Motor Assy(M1)	CXB1670
	97	Connector(CN702)	CKS2191

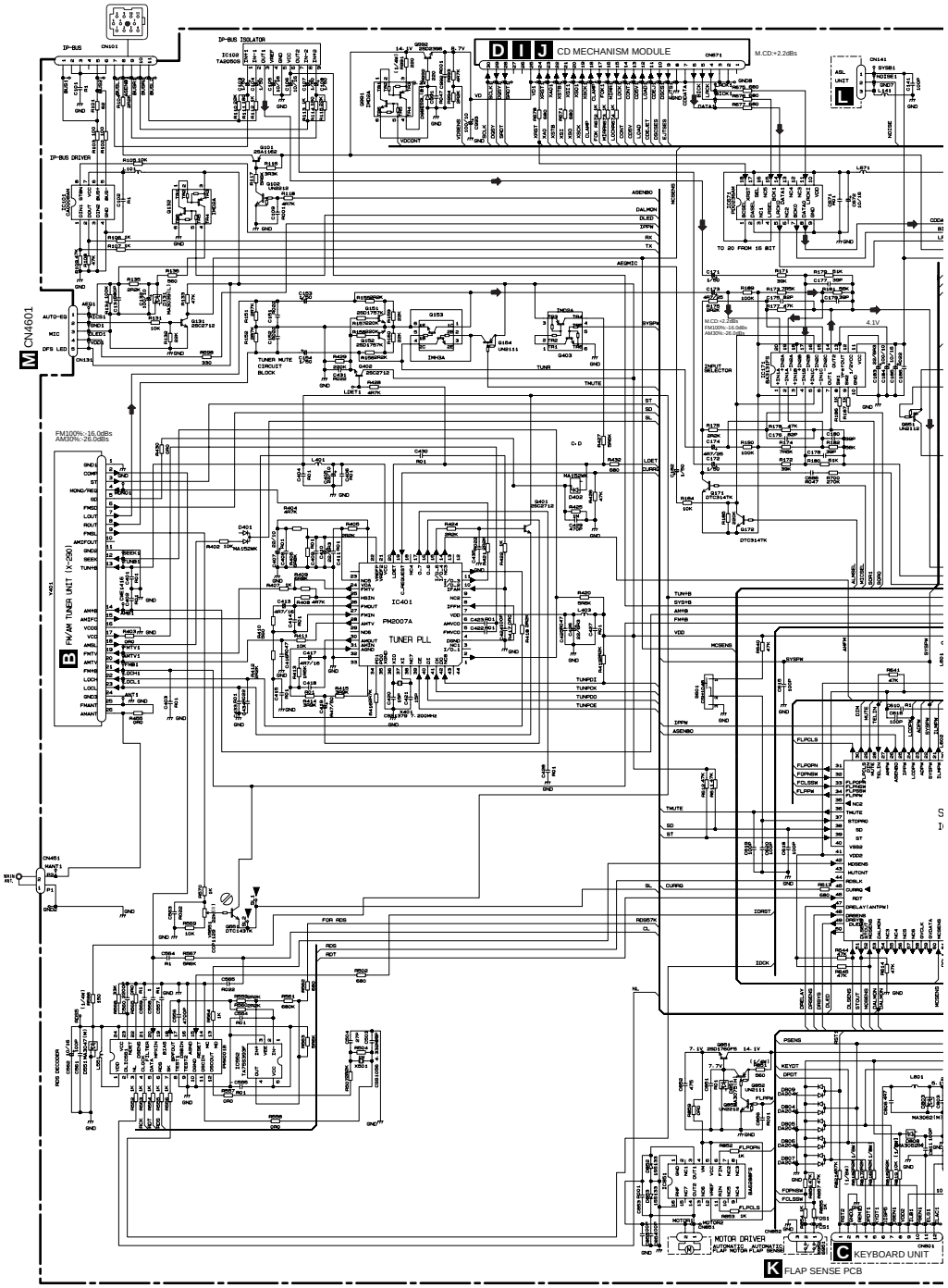
3. SCHEMATIC DIAGRAM

3.1 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

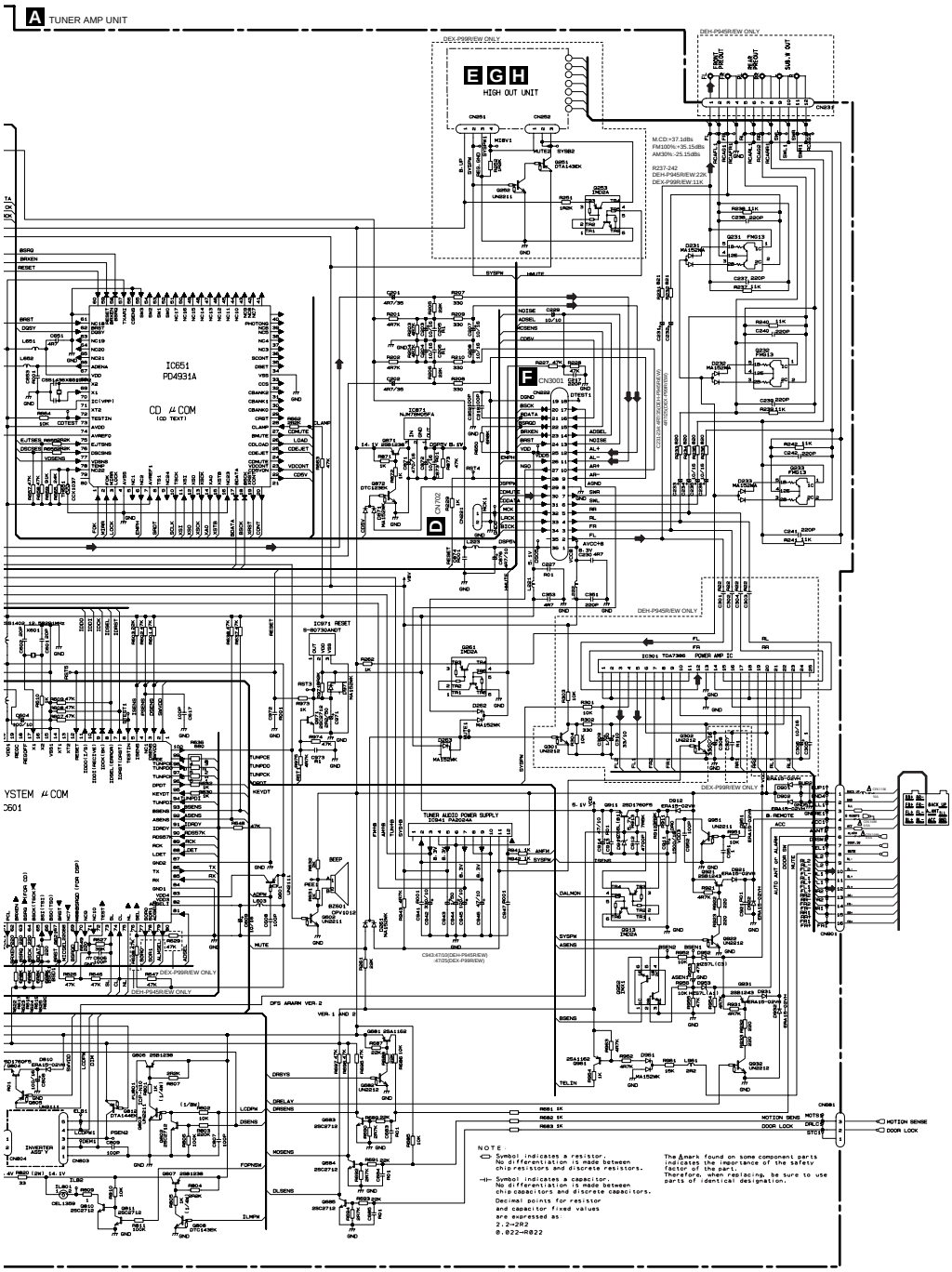


A-a

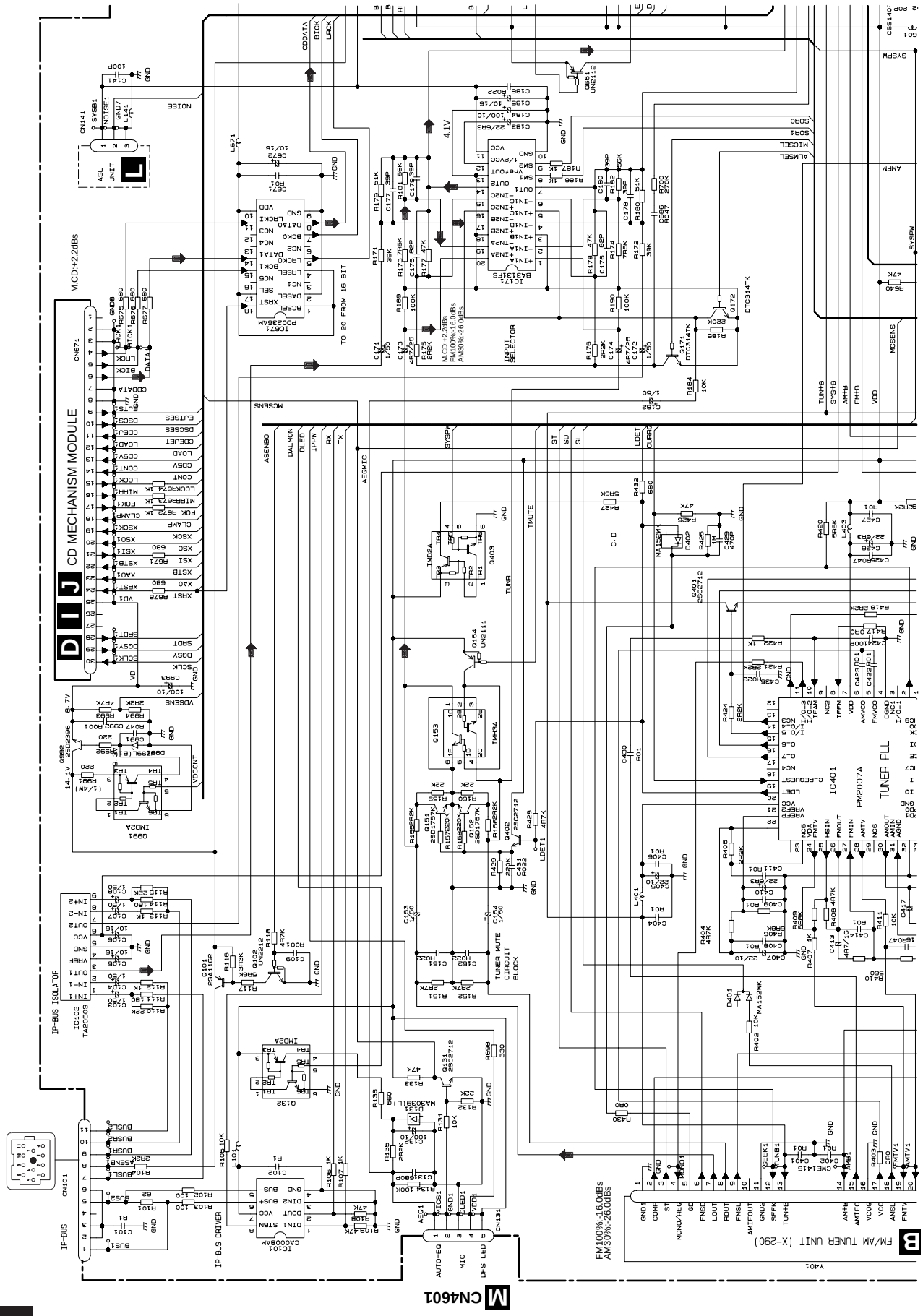


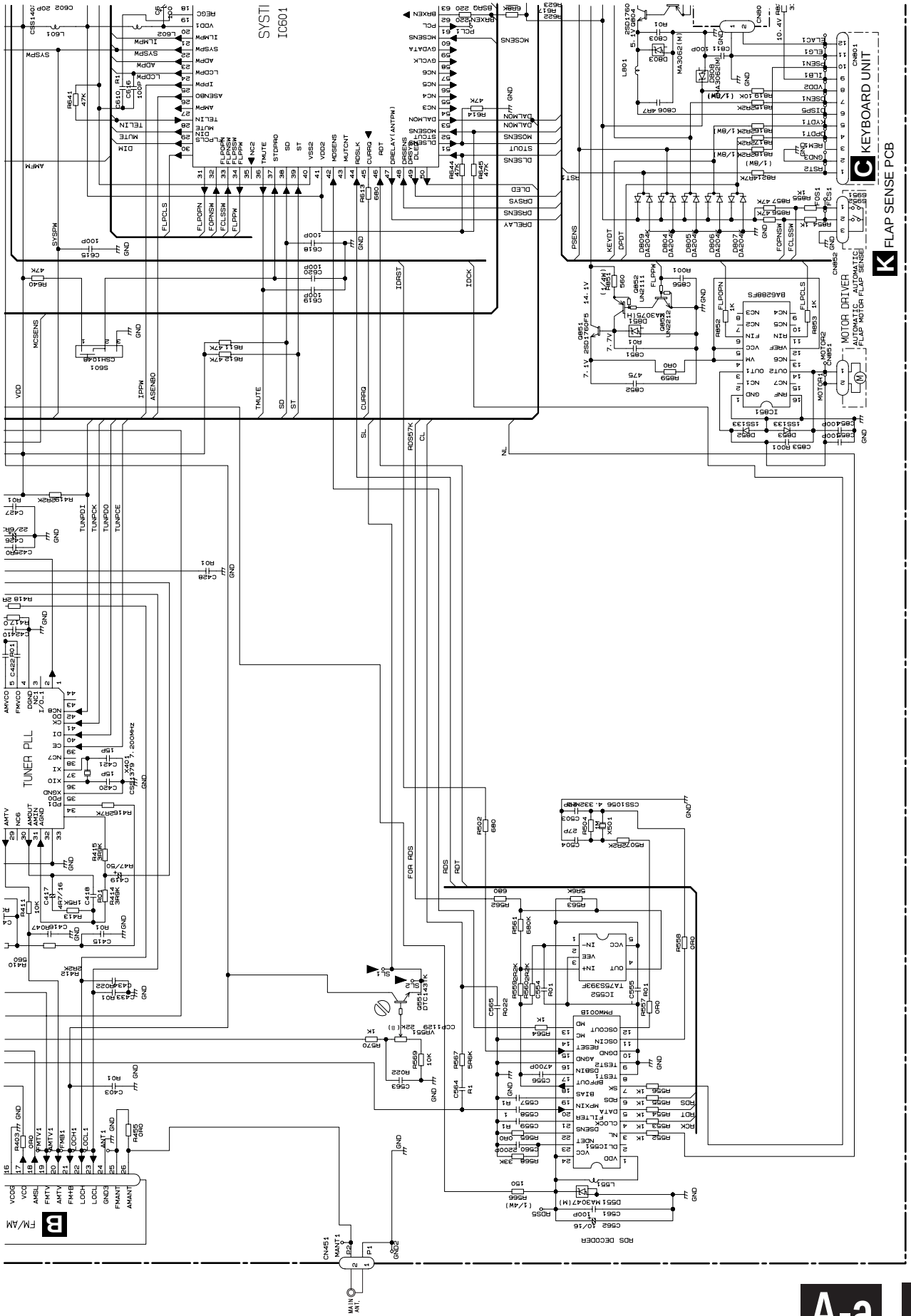
A

A-b

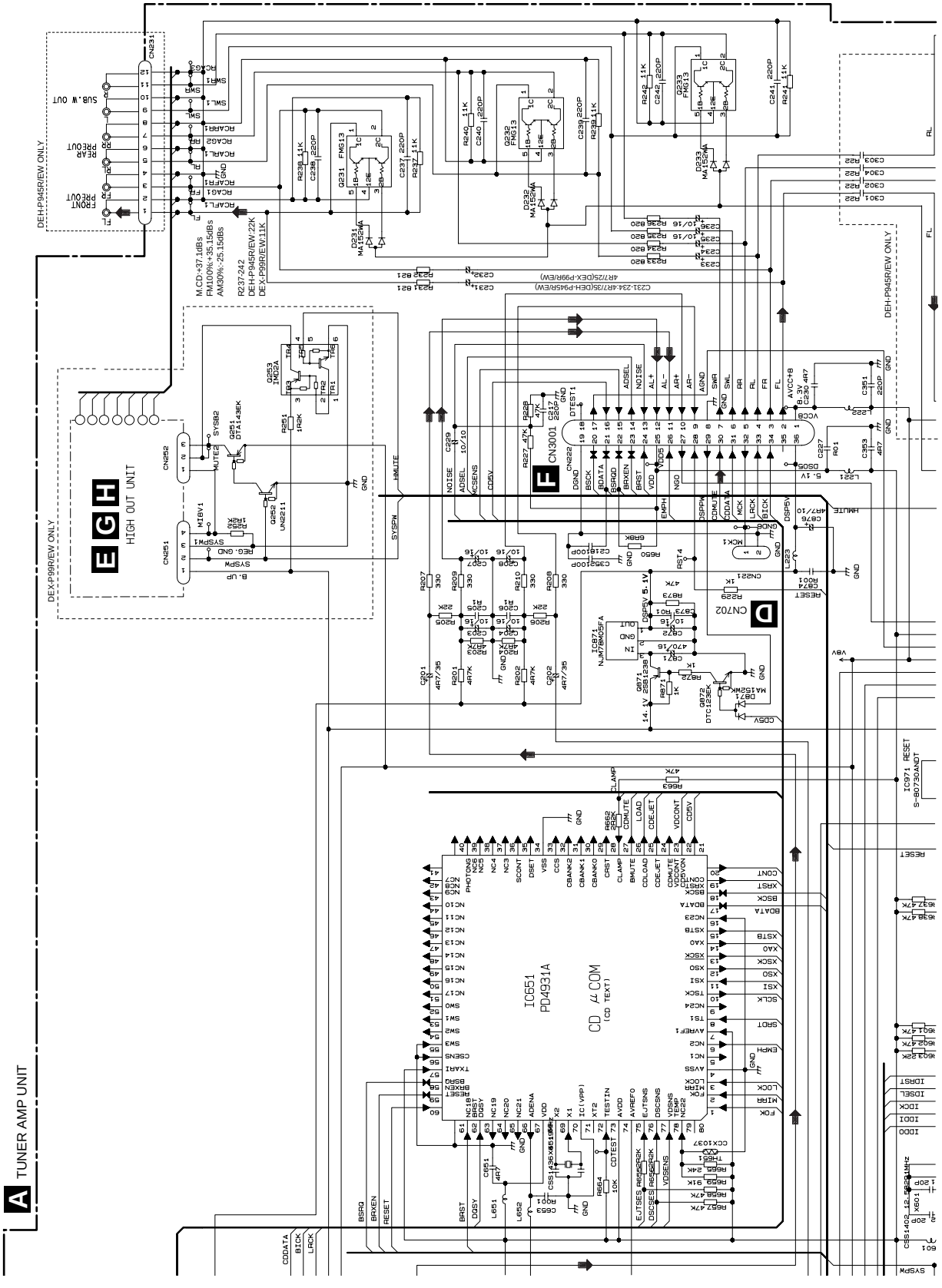

A TUNER AMP UNIT
DEX-P99R/EW ONLY
DEH-P945R/EW ONLY
E G H
HIGH OUT UNIT
CN251
CN252
CN253
CN237
IC651
PD4931A
CD μCOM
(CD TEXT)
CN702
CN3001
IC971 RESET
S-80730ANST
IC301 TDA7386
POWER AMP IC
TUNER AUDIO POWER SUPPLY
IC641 PA3024A
SYSTEM μCOM
IC601
BEEP
INVERTER ASSY
MOTION SENSE
DOOR LOCK
NOTE :
Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.
Decimal points for resistor and capacitor fixed values are expressed as
2.2→2R2
0.022→R022
The Δ mark found on some component parts indicates the importance of the safety factor of the part.
Therefore, when replacing, be sure to use parts of identical designation.

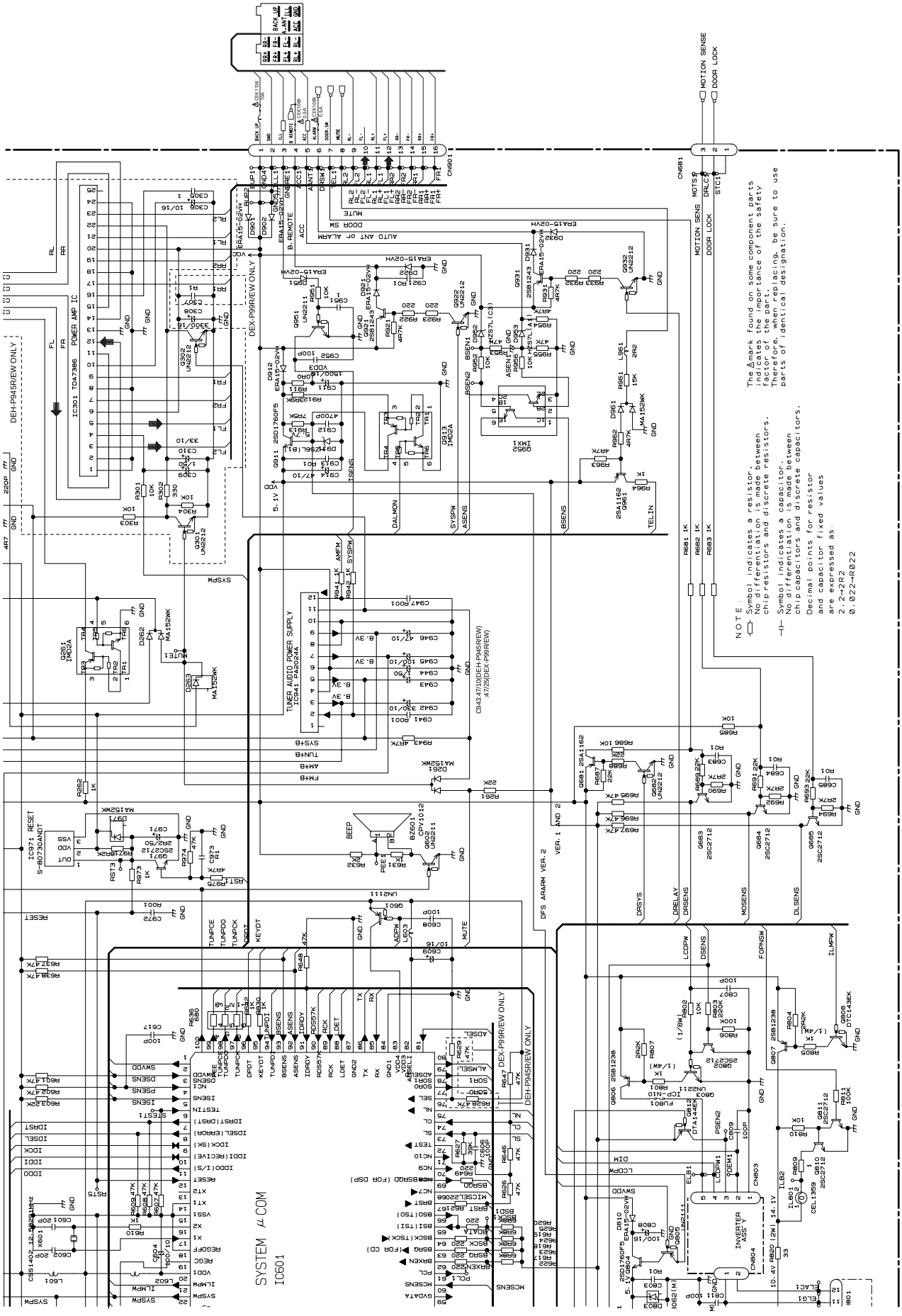
A-b
A-a


CD MECHANISM MODULE
CN671
IC671
PD0236AM
TO 20 FROM 16 BIT
M.CD:+2.2dBs
INPUT SELECTOR
BA3121FS
IC171
IC401
PM2007A
TUNER PLL
TUNER MUTE CIRCUIT BLOCK
IP-BUS ISOLATOR
IC102
TA2050S
IP-BUS DRIVER
IC101
CA0008AM
CN101
IP-BUS
CN141
ASL UNIT
CN131
AUTO-EQ
MIC
DFS LED
CN4601
FM/AM TUNER UNIT (X-290)
FM100%:-16.0dBs
AM30%:-26.0dBs
AUTO ANTENNA
SYSPW
MCSENS
TUNHB
SYSHB
AMHB
FMHB
VDD
NOISE
ASENBO
DALMON
DLED
IPPW
RX
TX
AEGMIC
ST
SD
SL
LDET
CLKRQ
CDDATA
BICK
LRCK
TUNER
TMUTE
C-D
VDCONT
VOSENS
14.1V
8.7V
4.1V

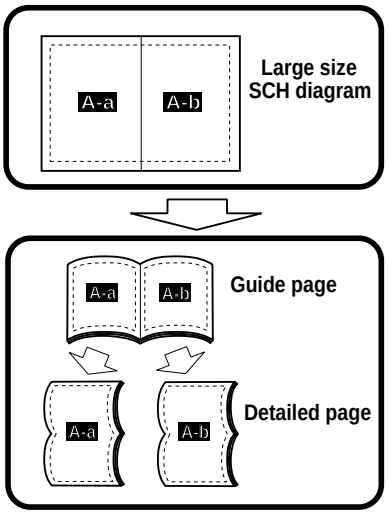

SYSTEM CONTROL IC601
KEYBOARD UNIT
FLAP SENSE PCB
MOTOR DRIVER
AUTOMATIC FLAP MOTOR
TUNER PLL
FM/AM
RDS DECODER
FOR RDS

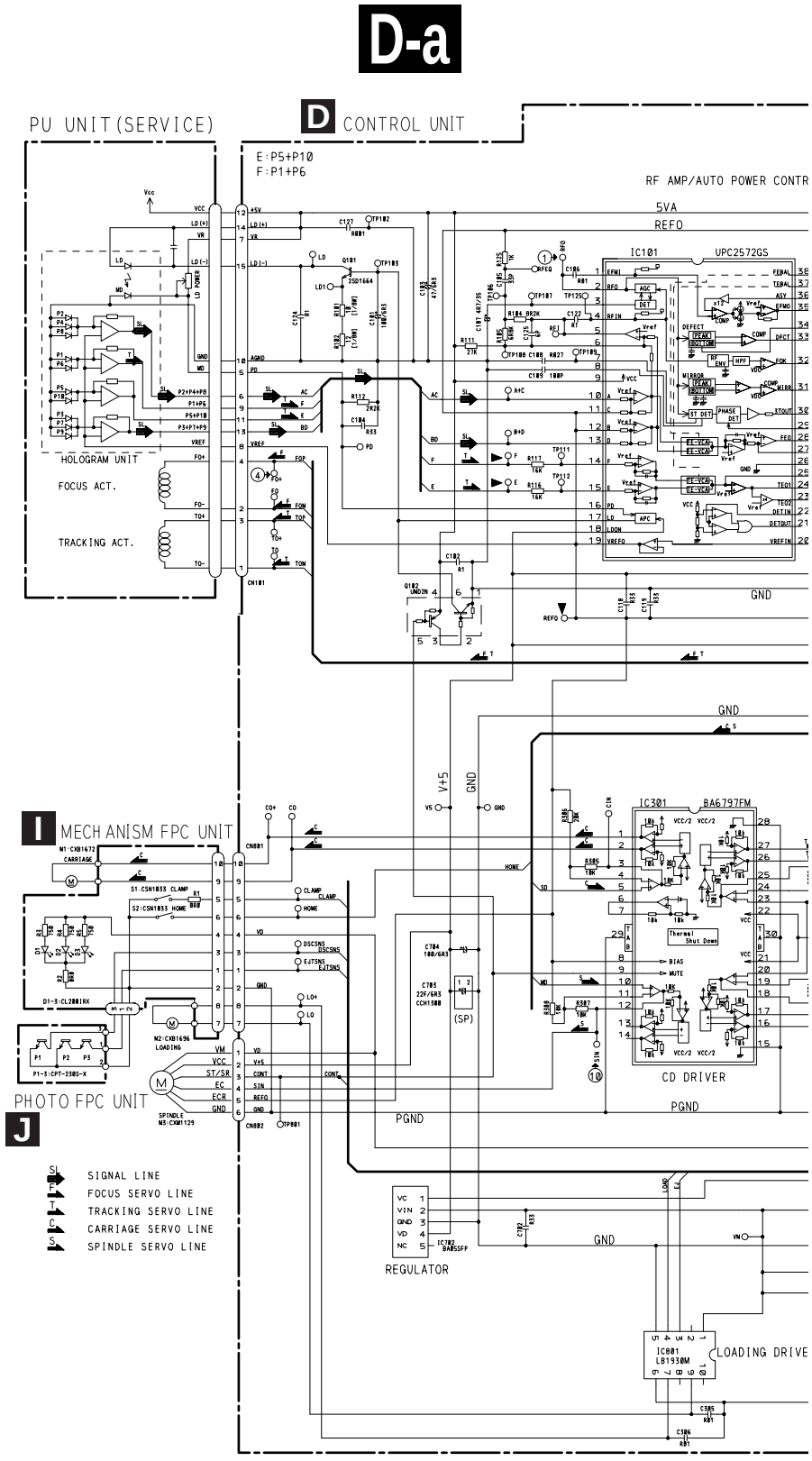
A-a A-b


A TUNER AMP UNIT
B HIGH OUT UNIT
C CN3001
D CN702
E CN231
F CN252
G CN251
IC651 PD4931A
CD μCOM (CD TEXT)
DEH-P945R/EW ONLY
DEX-P99R/EW ONLY
SUB.W OUT
REAR PREOUT
FRONT PREOUT
B.UP
M.CD:+37.1dBs
FM100%:+35.15dBs
AM30%:-25.15dBs
R237-242
DEH-P945R/EW:22K
DEX-P99R/EW:11K
C231-234:4R7/35(DEH-P945R/EW)
4R7/25(DEX-P99R/EW)
IC971 RESET S-80730ANDT
X601 12.5MHz

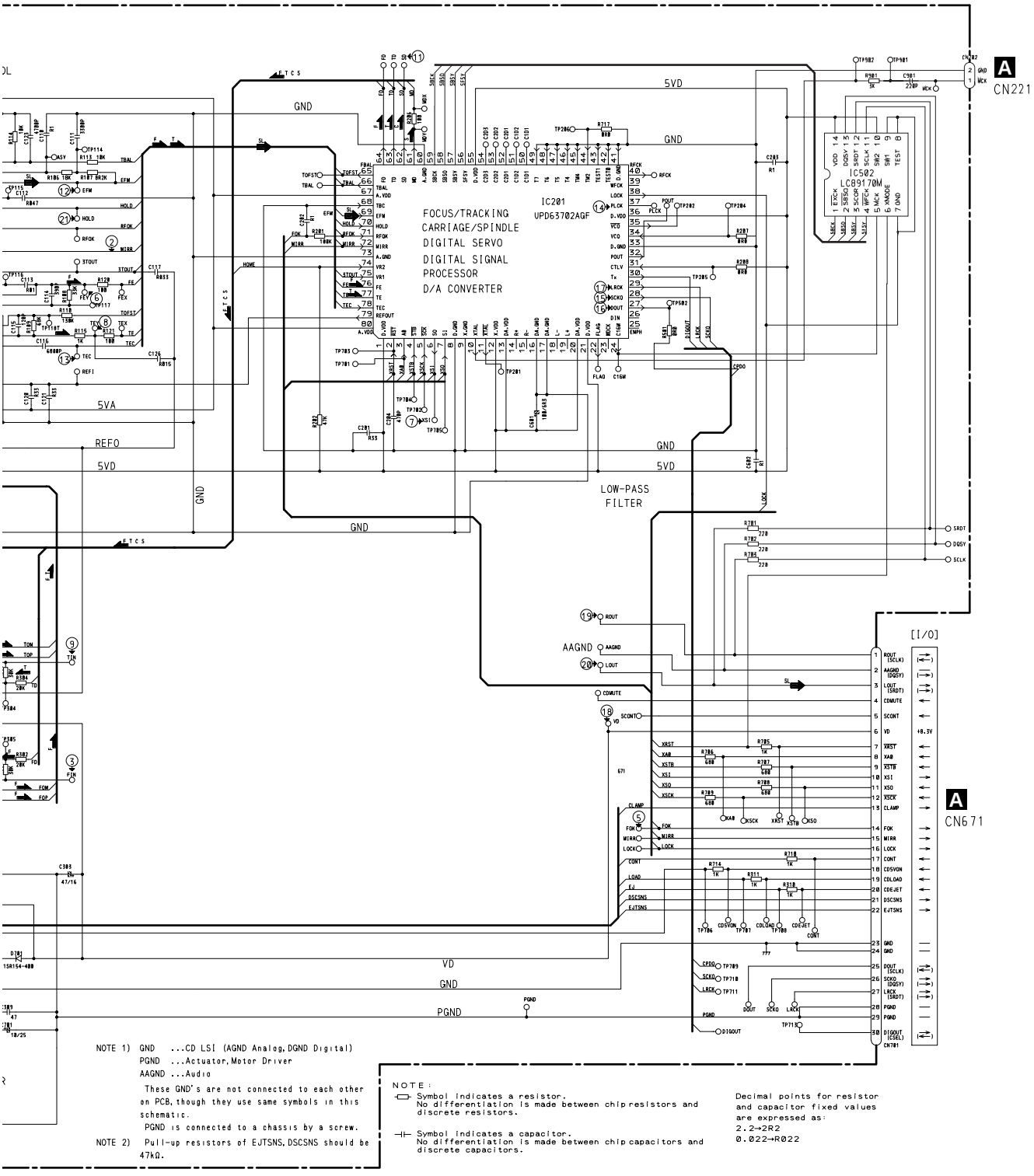

SYSTEM μCOM
IC601
DEH-P945R/EW ONLY
DEX-P99R/EW ONLY
POWER AMP IC
IC301 TDA7386
TUNER AUDIO POWER SUPPLY
IC941 PA2024
IC971 RESET
S-80730ANDT
AUTO ANT or ALARM
B.REMOTE
DOOR SW
MOTION SENSE
DOOR LOCK
MUTE
DFS ARARM VER.2
VER.1
AND 2
NOTE
Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.
Decimal points for resistor and capacitor fixed values are expressed as
2.2→2R2
0.022→R022
The △ mark found on some component parts indicates the importance of the safety factor of the part.
Therefore, when replacing, be sure to use parts of identical designation.

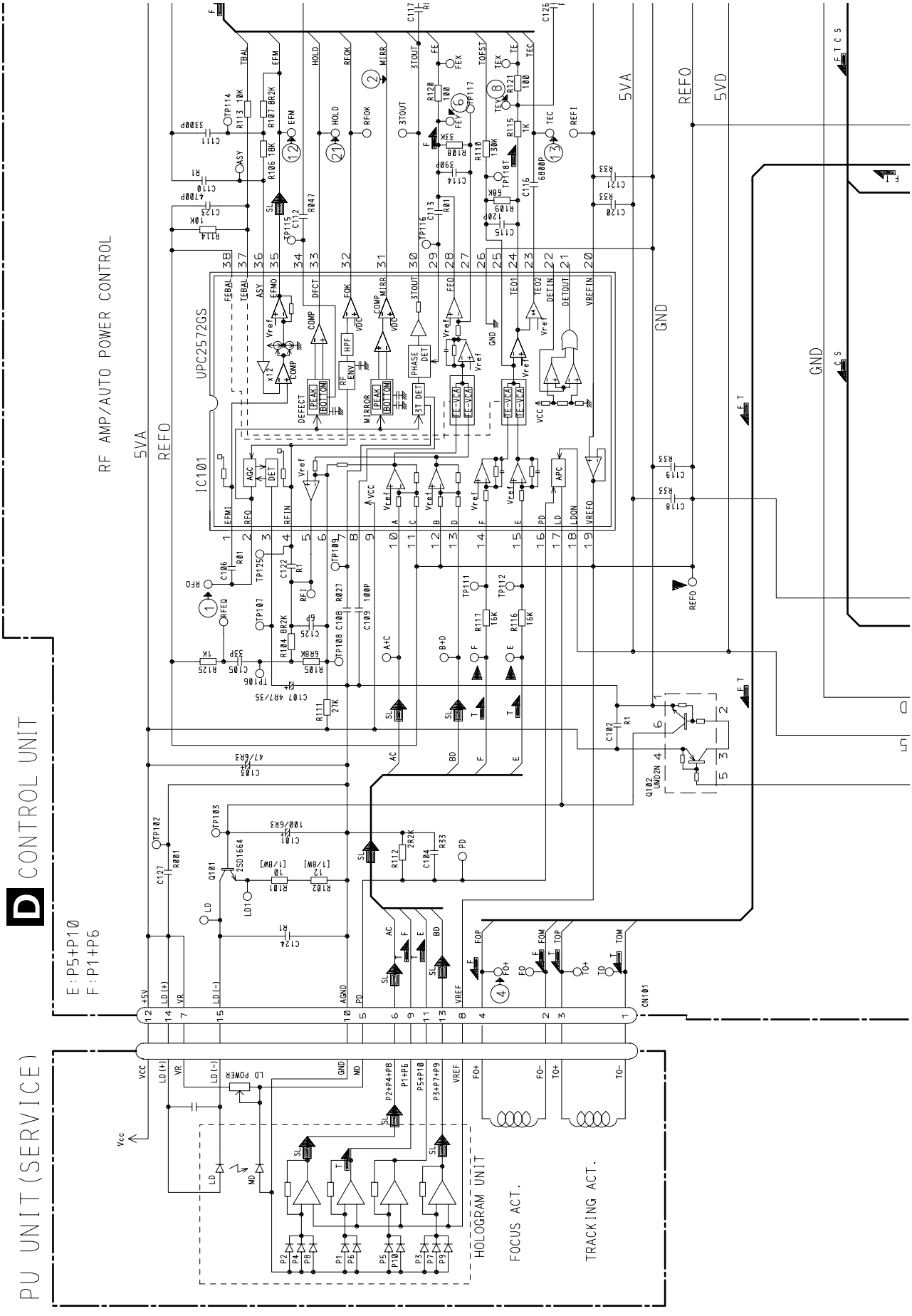
3.2 CD MECHANISM MODULE(GUIDE PAGE)

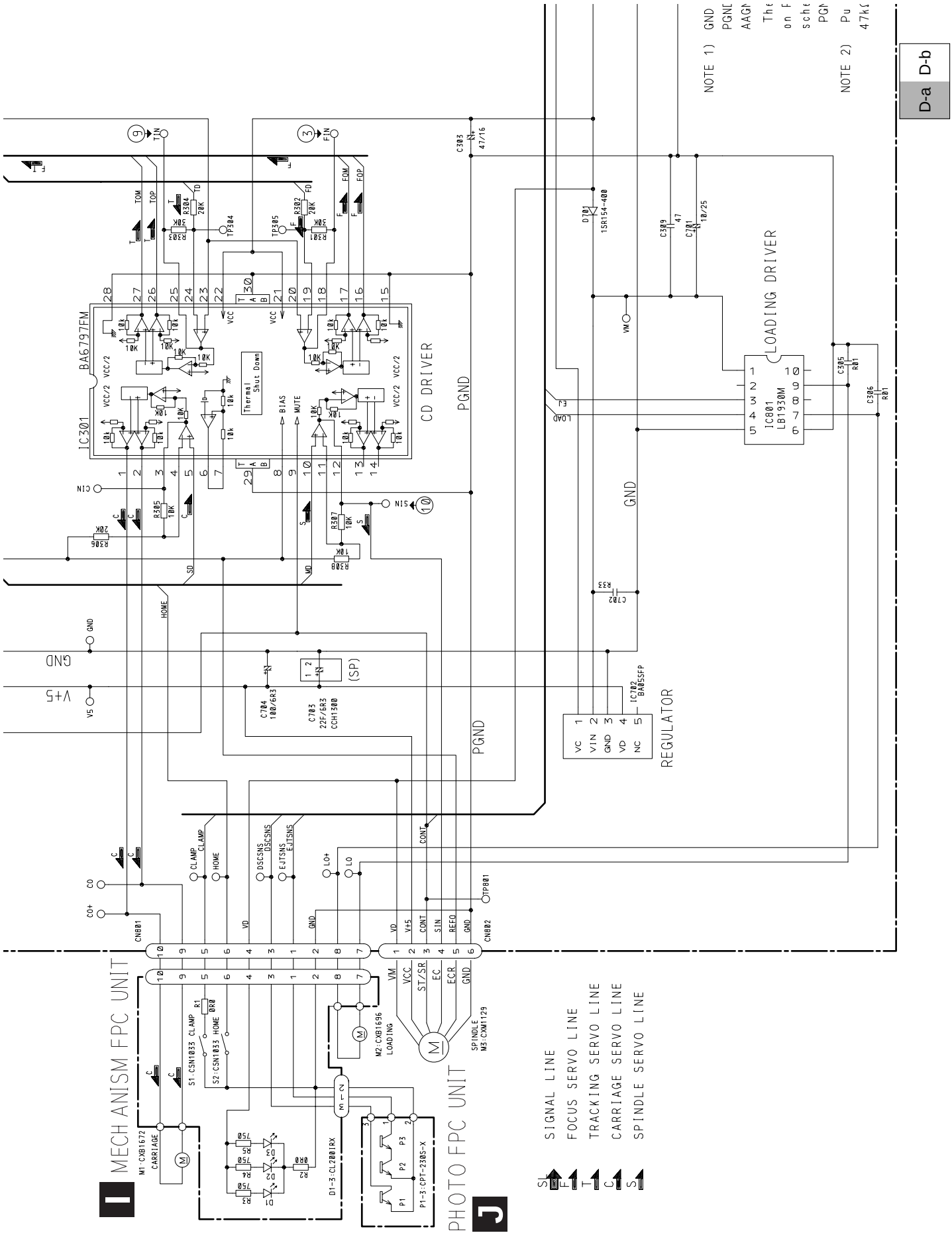


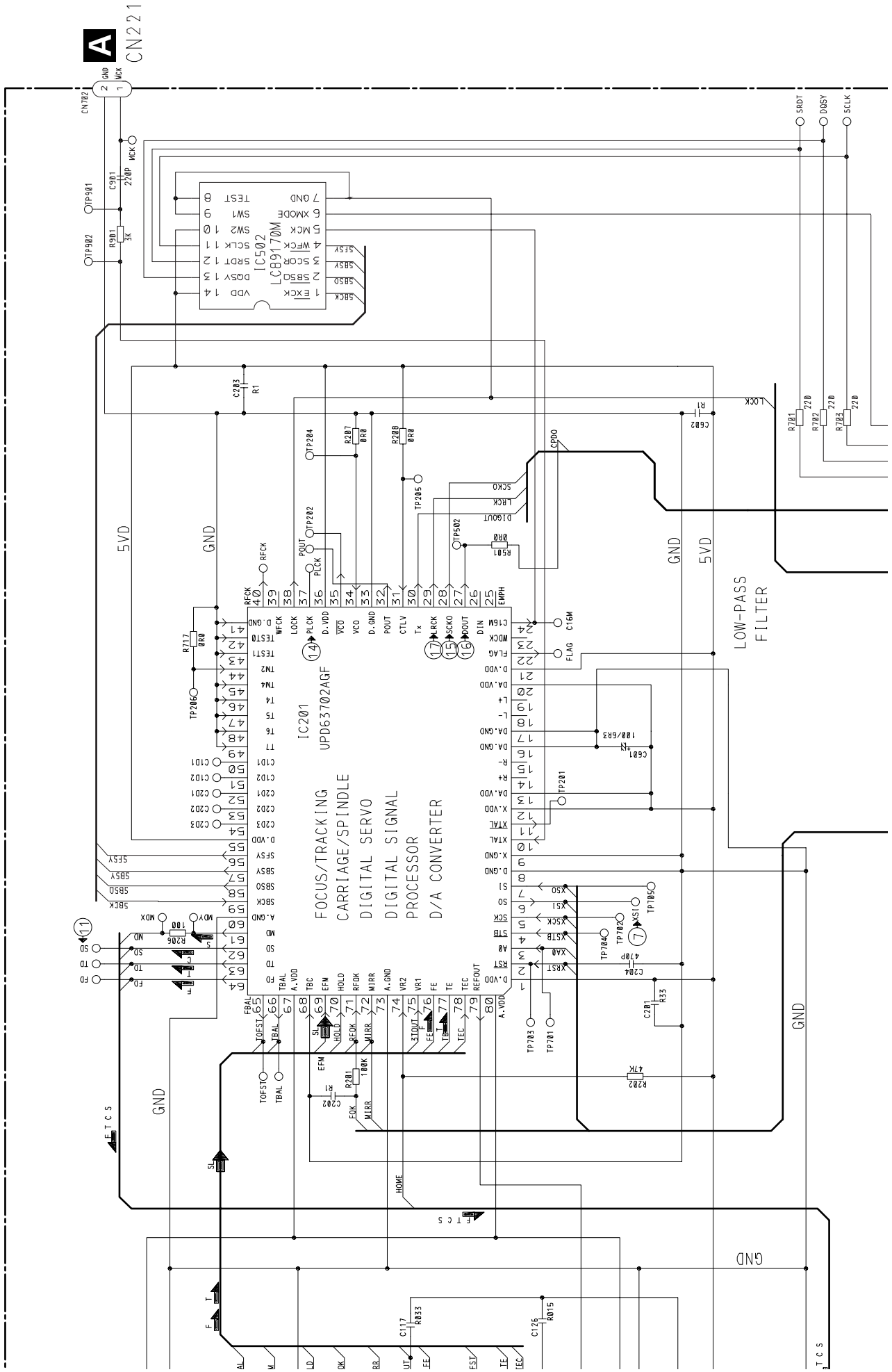


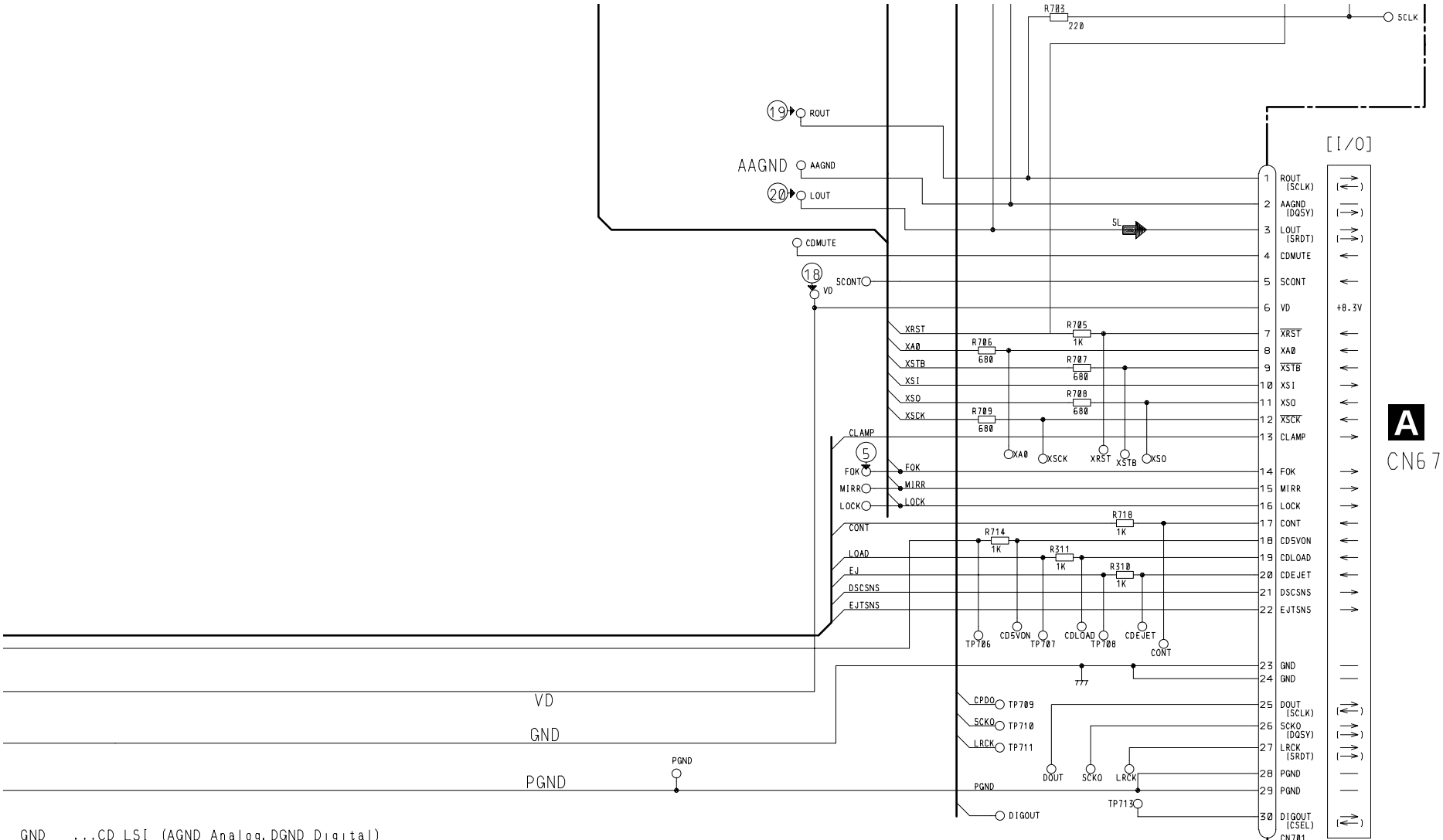
D-b


IC201
UPD63702AGF
FOCUS/TRACKING
CARRIAGE/SPINDLE
DIGITAL SERVO
DIGITAL SIGNAL
PROCESSOR
D/A CONVERTER
IC502
LC89170M
LOW-PASS
FILTER
CN221
CN671
[I/O]
5VD
5VA
GND
REFO
VD
PGND
AAGND
HOME
SRDT
DOSY
SCLK
NOTE 1) GND ...CD LSI (AGND Analog, DGND Digital)
PGND ...Actuator, Motor Driver
AAGND ...Audio
These GND's are not connected to each other on PCB, though they use same symbols in this schematic.
PGND is connected to a chassis by a screw.
NOTE 2) Pull-up resistors of EJTSNS, DSCSNS should be 47kΩ.
NOTE:
Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.
Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022


D-a D-b
RF AMP/AUTO POWER CONTROL
IC101
UPC2572GS
5VA
REFO
GND
5VD
D CONTROL UNIT
E:P5+P10
F:P1+P6
PU UNIT(SERVICE)
HOLOGRAM UNIT
FOCUS ACT.
TRACKING ACT.
CN101


D-a D-b
NOTE 1) GND PGND AAGN
NOTE 2) Pu 47k
IC301 BA6797FM
CD DRIVER
Thermal Shut Down
BIAS MUTE
PGND
LOADING DRIVER
IC801 LB1930M
D701 1SR154-400
C309 47
C701 10/25
C305 R01
C306 R01
VM
LOAD
GND
C702 R33
REGULATOR
IC702 BA05SFP
VC VIN GND VD NC
C704 100/6R3
C703 22F/6R3 CCH1300
(SP)
TIN FIN
TOM TOP FOM FOP
TP304 TP305
R304 20K TD
R302 20K FD
C303 47/16
CIN SIN
R305 10K
R307 10K
R306 20K
R308 10K
SD WD
HOME
GND
V+5
CO CO+
CLAMP HOME DSCSNS EJTSNS LO+ LO CONT
CN801 CN802 TP801
VD V+5 CONT SIN REFO GND
VM VCC ST/SR EC ECR GND
I MECH ANISM FPC UNIT
M1:CXB1672 CARRIAGE
S1:CSN1033 CLAMP
S2:CSN1033 HOME
R1 0R0
M2:CXB1696 LOADING
SPINDLE M3:CXM1129
D1-3:CL200IRX
P1-3:CPT-2305-X
J PHOTO FPC UNIT
SIGNAL LINE
FOCUS SERVO LINE
TRACKING SERVO LINE
CARRIAGE SERVO LINE
SPINDLE SERVO LINE


CN221
CN702
WCK
TP901
C901
220P
TP902
R901
3K
IC502
LC89170M
TEST
SW1
SW2
SCLK
SRDT
DOSY
VDD
SRDT
SCOR
SBSO
EXCK
SRDT
DOSY
SCLK
C203
R1
TP204
R207
0R0
R208
0R0
TP205
TP202
TP502
R501
0R0
CDDO
SCKO
LRCK
DIGOUT
5VD
GND
RFCK
POUT
PLCK
LOCK
C202
R1
R701
220
R702
220
R703
220
IC201
UPD63702AGF
FOCUS/TRACKING
CARRIAGE/SPINDLE
DIGITAL SERVO
DIGITAL SIGNAL
PROCESSOR
D/A CONVERTER
LOW-PASS
FILTER
R717
0R0
TP206
C601
100/6R3
TP201
C204
470P
C201
R33
R206
100
R202
47K
R201
100K
C202
R1
TP703
TP701
TP702
TP704
TP705
TOFST
TBAL
EFM
HOLD
RFOK
MIRR
FOK
SL
HOME
TCS
FCS
C117
R033
C176
R015
GND
5VD



GND ...CD LSI (AGND Analog, DGND Digital)
PGND ...Actuator, Motor Driver
AAGND ...Audio

These GND's are not connected to each other on PCB, though they use same symbols in this schematic.

PGND is connected to a chassis by a screw.

Pull-up resistors of EJTSNS, DSCSNS should be 47kΩ.

NOTE:

Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

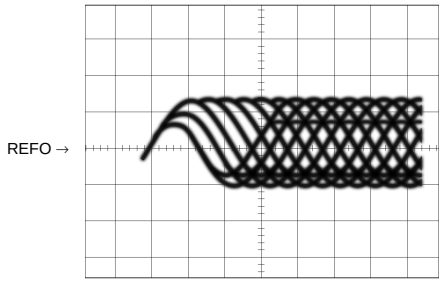
Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

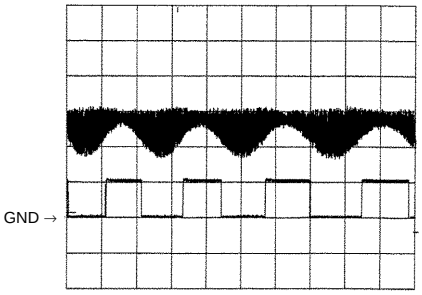
Note:1. The encircled numbers denote measuring pointes in the circuit diagram.
2. Reference voltage
REFO:2.5V

● Waveforms

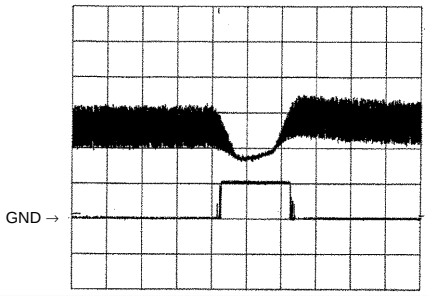
① RFO 0.5V/div. 0.5µs/div.
Normal mode: play



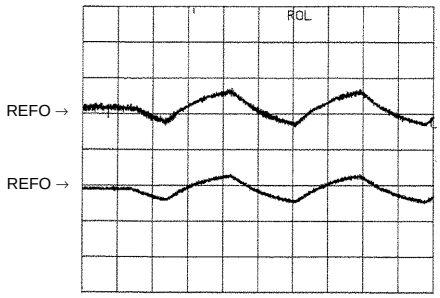
① CH1: RFO 1V/div. 0.5ms/div.
② CH2: MIRR 5V/div.
Test mode: Tracking open



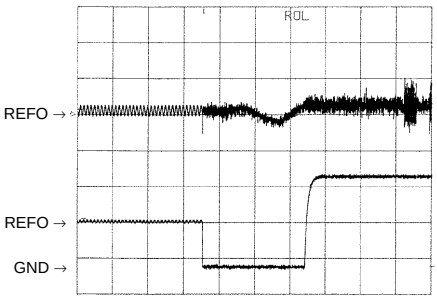
① CH1: RFO 1V/div. 0.5ms/div.
② CH2: MIRR 5V/div.
Normal mode: The defect part passes 800µm



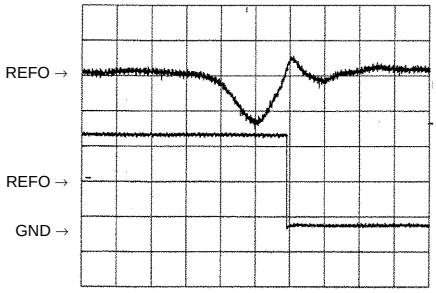
③ CH1: FIN 0.5V/div. 0.2s/div.
④ CH2: FO+ 2V/div.
Test mode: No disc, Focus close



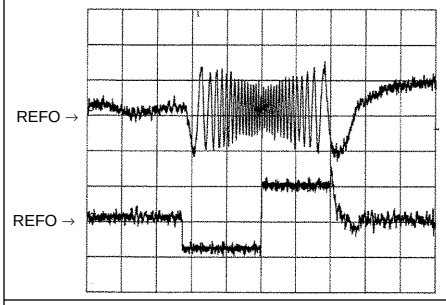
③ CH1: FIN 0.5V/div. 0.2s/div.
⑤ CH2: FOK 2V/div.
Normal mode: Focus close



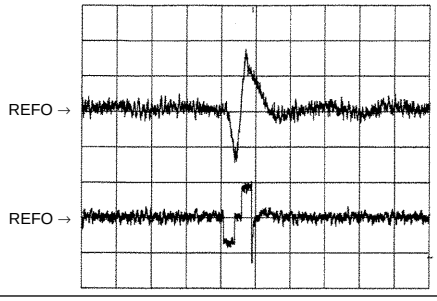
⑥ CH1: FEY 0.5V/div. 1ms/div.
⑦ CH2: XSI 2V/div.
Normal mode: Focus close



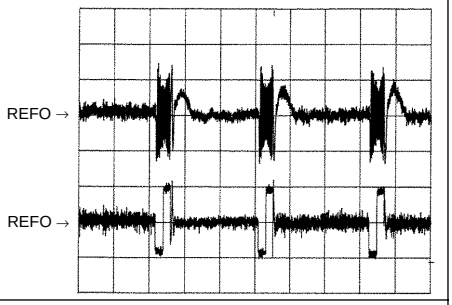
⑧ CH1: TEY 0.5V/div. 0.5ms/div.
⑨ CH2: TIN 0.5V/div.
Test mode: 32 tracks jump (FWD)



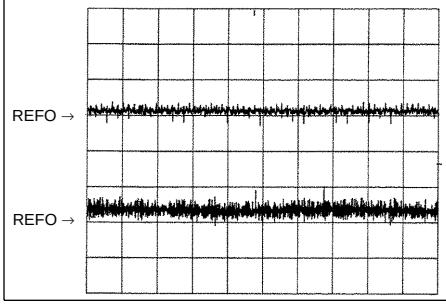
⑧ CH1: TEY 0.5V/div. 0.5ms/div.
⑨ CH2: TIN 0.5V/div.
Test mode: Single jump (FWD)



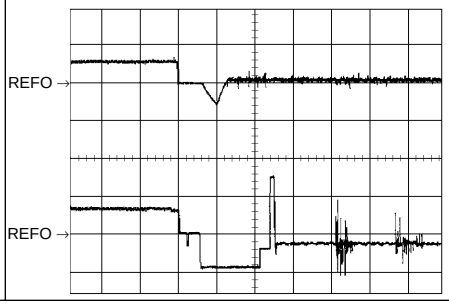
⑧ CH1: TEY 0.5V/div. 5ms/div.
⑨ CH2: TIN 0.5V/div.
Test mode: 100 tracks jump (FWD)



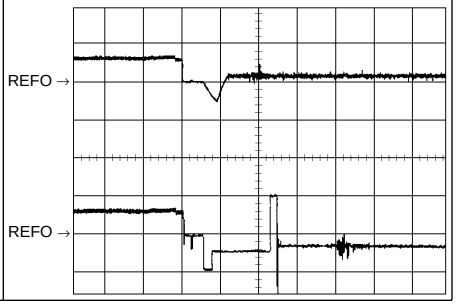
⑥ CH1: FEY 0.1V/div. 20ms/div.
③ CH2: FIN 0.2V/div.
Normal mode: Play



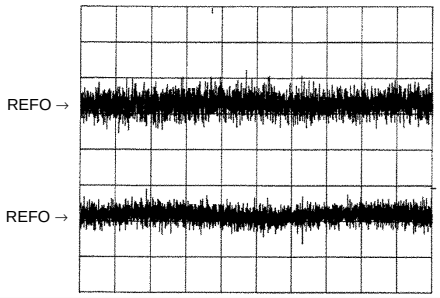
③ CH1: FIN 0.5V/div. 0.5s/div.
⑩ CH2: SIN 1V/div.
Normal mode: Focus close (12cm)



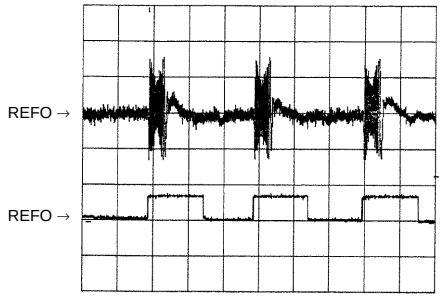
③ CH1: FIN 0.5V/div. 0.5s/div.
⑩ CH2: SIN 1V/div.
Normal mode: Focus close (8cm)



⑧ CH1: TEY 0.2V/div. 20ms/div.
⑨ CH2: TIN 0.2V/div.
Normal mode: play

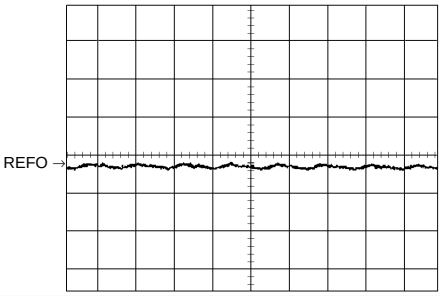


⑧ CH1: TEY 0.5V/div. 5ms/div.
⑪ CH2: SD 0.5V/div.



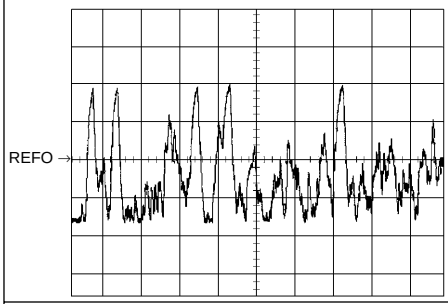
⑩ SIN 0.5V/div. 0.1s/div.

Normal mode: Play (12cm)



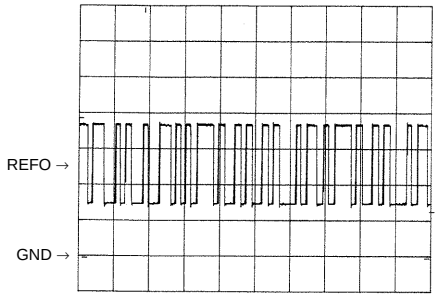
⑩ SIN 1V/div. 10ms/div.

Long Search (12cm)

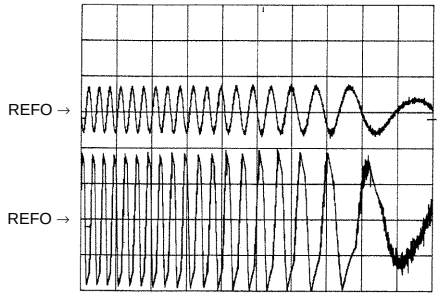


⑫ EFM 1V/div. 5µs/div.

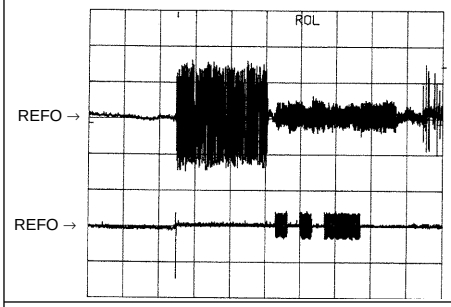
Play



⑧ CH1: TEY 1V/div. 2ms/div.
⑬ CH2: TEC 1V/div.
Test mode: Focus close
Tracking open

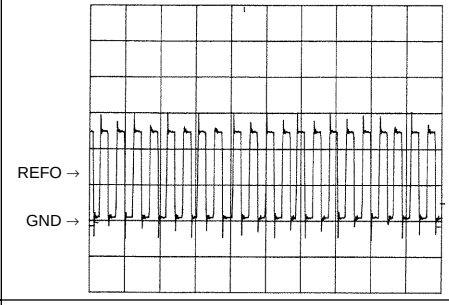


⑧ CH1: TEY 0.5V/div. 0.2s/div.
⑥ CH2: FEY 0.5V/div.
Normal mode: AGC after focus close



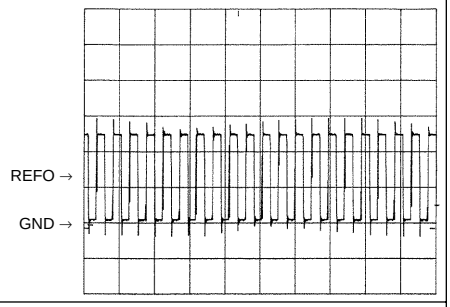
⑭ PLCK 2V/div. 0.5µs/div.

Play



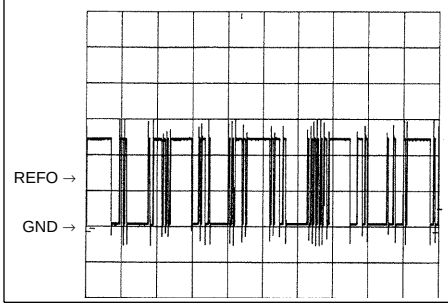
⑮ SCKO 2V/div. 1µs/div.

Play

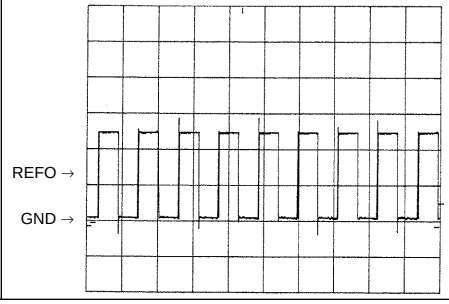


⑯ Dout 2V/div. 10µs/div.

Play

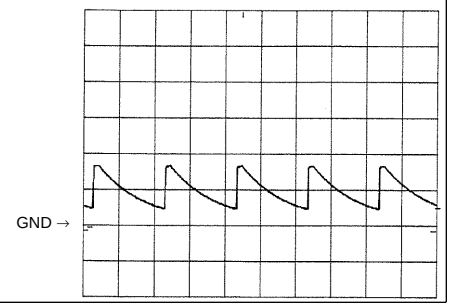


⑰ LRCK 2V/div. 20µs/div.

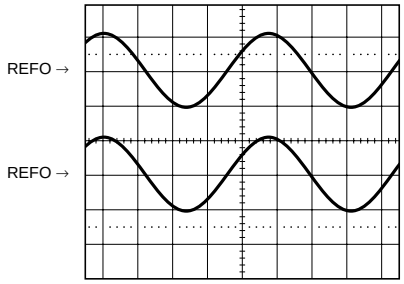


⑱ VD 5V/div. 50ms/div.

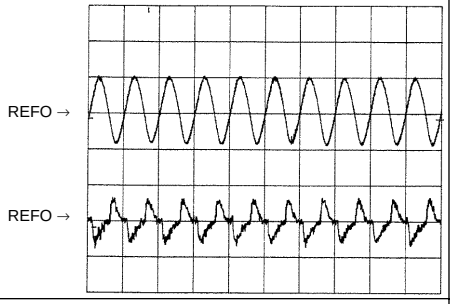
Normal mode: No disc



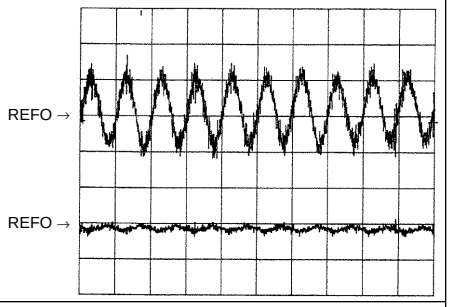
⑲ CH1: R OUT 1V/div.
⑳ CH2: L OUT 1V/div.
0.2ms/div.
Normal mode: Play (1kHz 0dB)



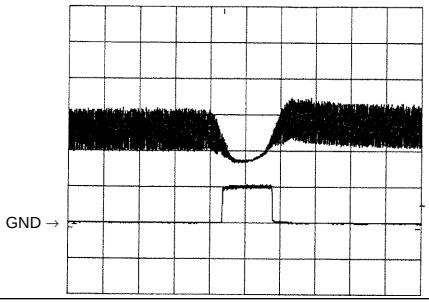
⑥ CH1: FEY 0.2V/div.
③ CH2: FIN 0.5V/div.
1ms/div.
Normal mode: During AGC



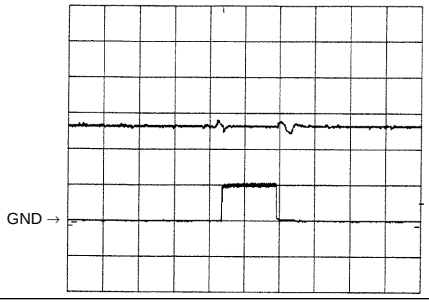
⑧ CH1: TEY 0.2V/div.
⑨ CH2: TIN 0.5V/div.
1ms/div.
Normal mode: During AGC



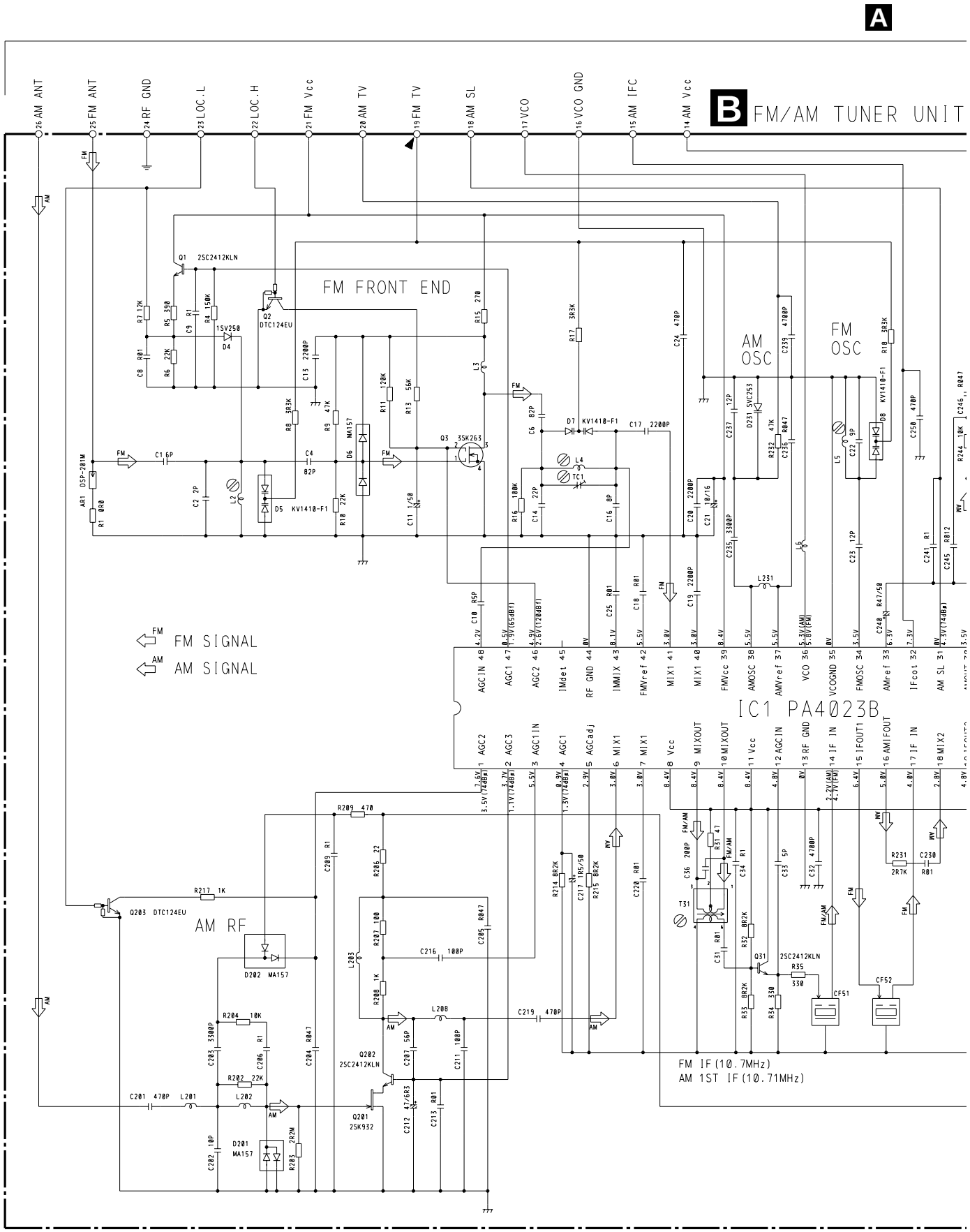
① CH1: RFO 1V/div.
㉑ CH2: HOLD 5V/div.
0.5ms/div.
Normal mode: The defect part passes 800µm

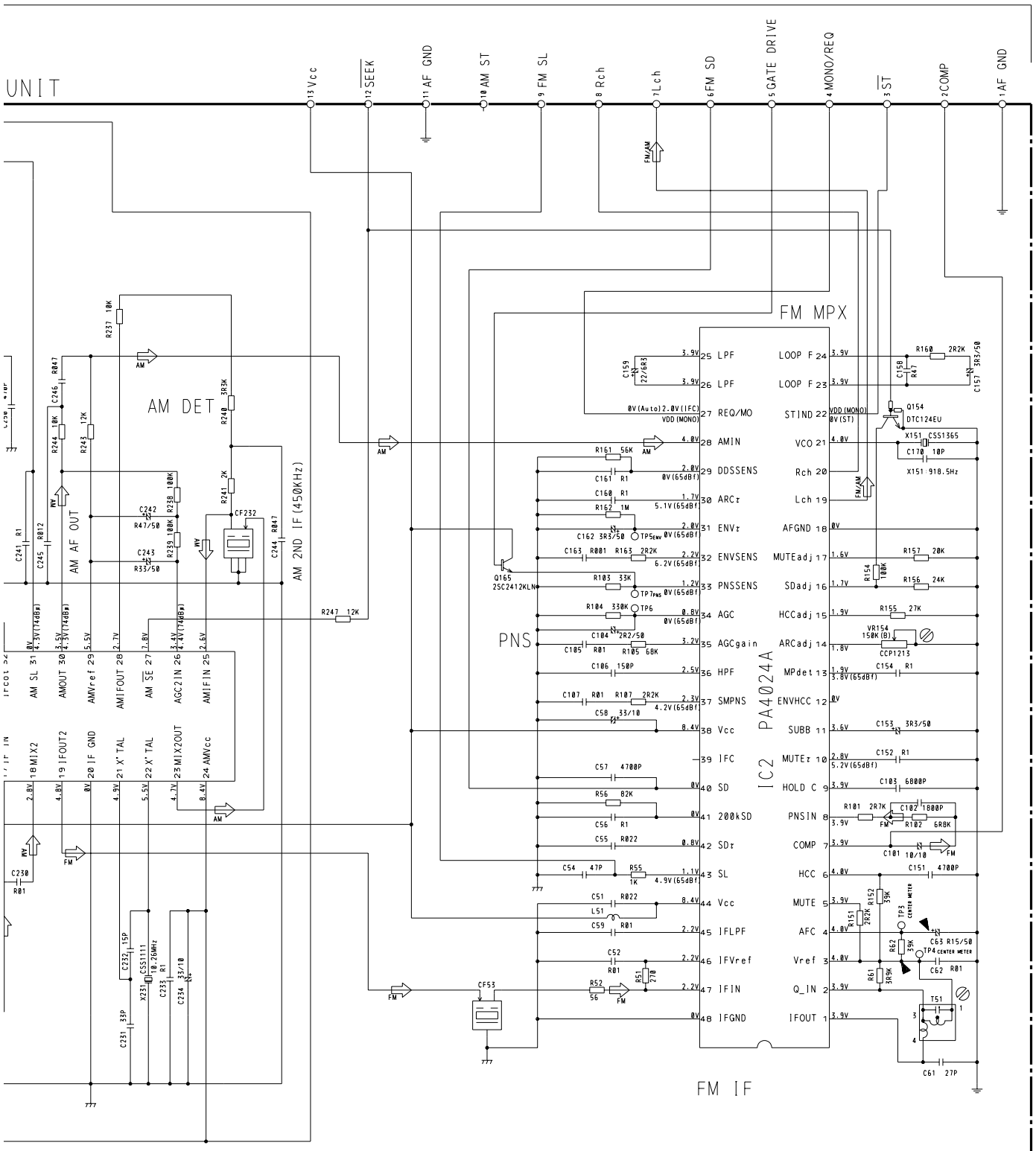


③ CH1: FIN 1V/div.
㉑ CH2: HOLD 5V/div.
0.5ms/div.
Normal mode: The defect part passes 800µm

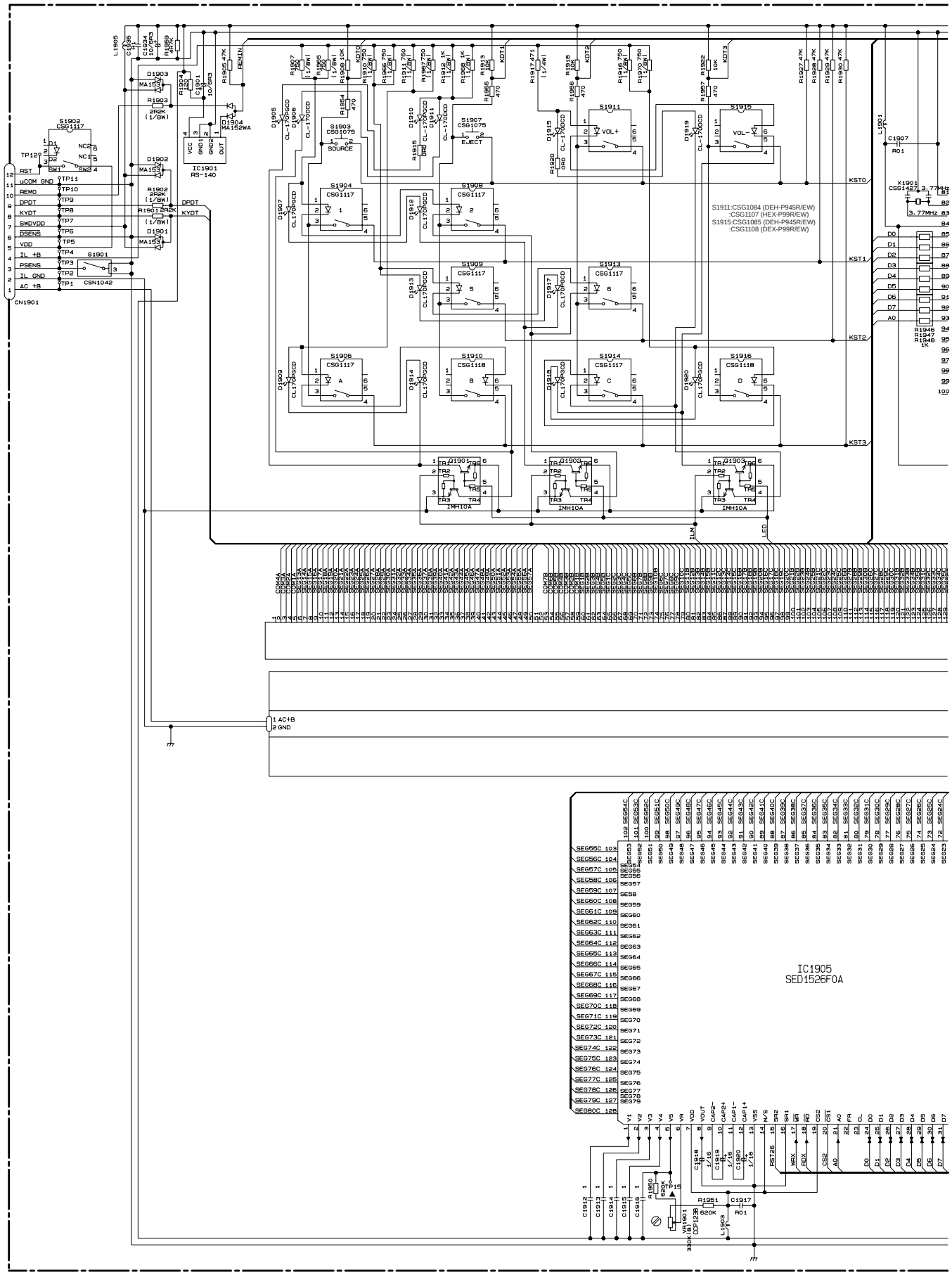


3.3 FM/AM TUNER UNIT

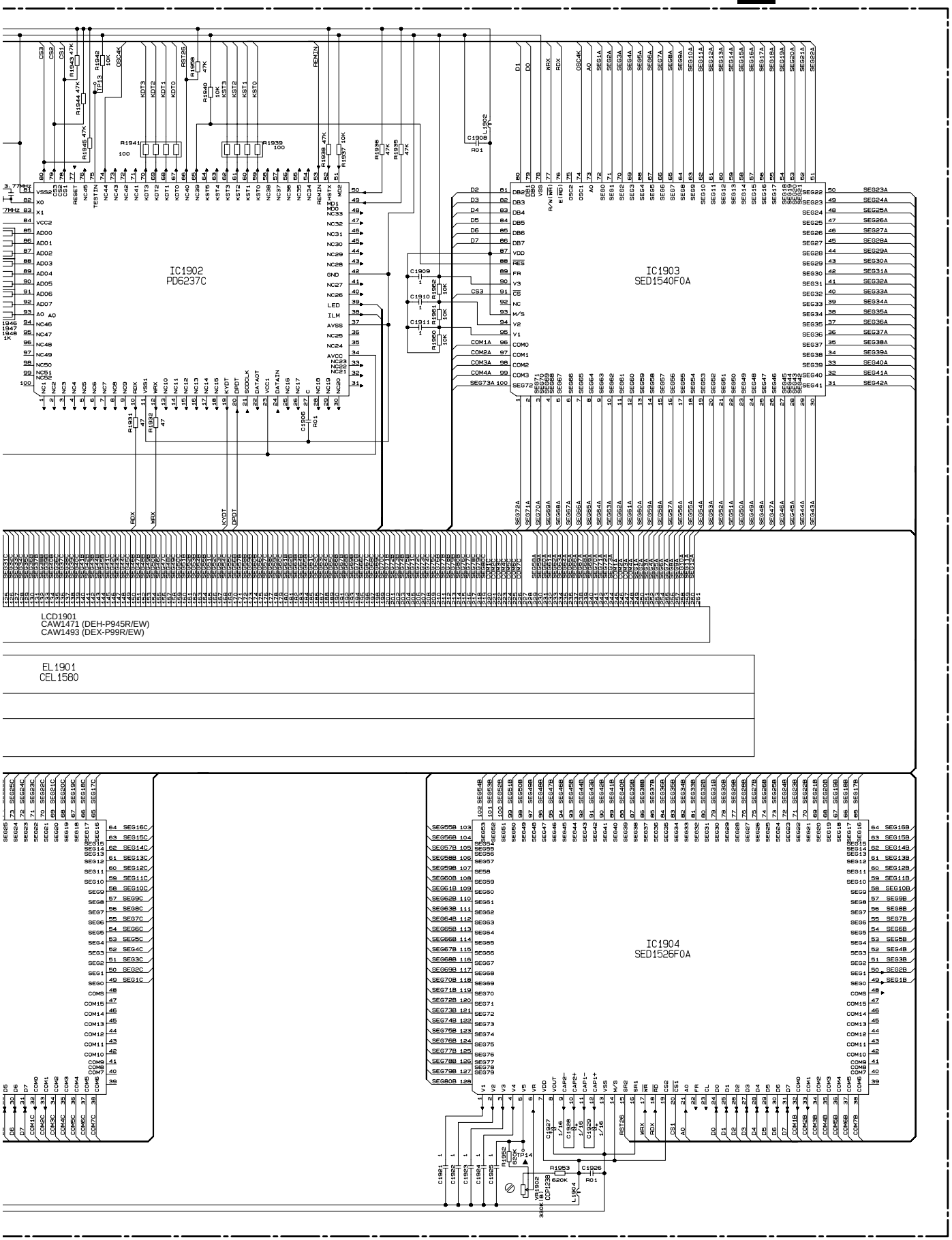



UNIT
13 Vcc
12 SEEK
11 AF GND
10 AM ST
9 FM SL
8 Rch
7 Lch
6 FM SD
5 GATE DRIVE
4 MONO/REQ
3 ST
2 COMP
1 AF GND
FM MPX
AM DET
AM AF OUT
AM 2ND IF (450KHz)
PNS
IC2 PA4024A
FM IF
LOOP F 24
LOOP F 23
STIND 22
VCO 21
Rch 20
Lch 19
AFGND 18
MUTEadj 17
SDadj 16
HCCadj 15
ARCadj 14
MPdet 13
ENVHCC 12
SUBB 11
MUTEr 10
HOLD C 9
PNSIN 8
COMP 7
HCC 6
MUTE 5
AFC 4
Vref 3
Q_IN 2
IFOUT 1
25 LPF
26 LPF
27 REQ/MO
28 AMIN
29 DDSSENS
30 ARCr
31 ENVr
32 ENVSENS
33 PNSSENS
34 AGC
35 AGCgain
36 HPF
37 SMPNS
38 Vcc
39 IFC
40 SD
41 200kSD
42 SDr
43 SL
44 Vcc
45 IFLPF
46 IFVref
47 IFIN
48 IFGND
AM SL 31
AMOUT 30
AMVref 29
AMIFOUT 28
AM SE 27
AGC2IN 26
AM IFIN 25
18 MIX2
19 IFOUT2
20 IF GND
21 X'TAL
22 X'TAL
23 MIX2OUT
24 AMVcc
FM/AM
Q165 2SC2412KLN
Q154 DTC124EU
X151 CSS1365
X151 918.5Hz
CF232
CF53
X231 CSS1111 10.26MHz
T51
TP3 CENTER METER
TP4 CENTER METER
TP5 TP6 TP7
VR154 150K(B) CCP1213

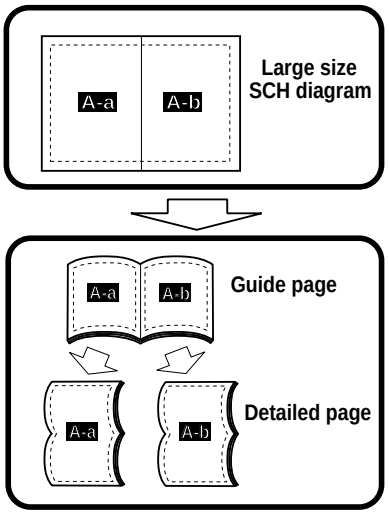
3.4 KEYBOARD PCB



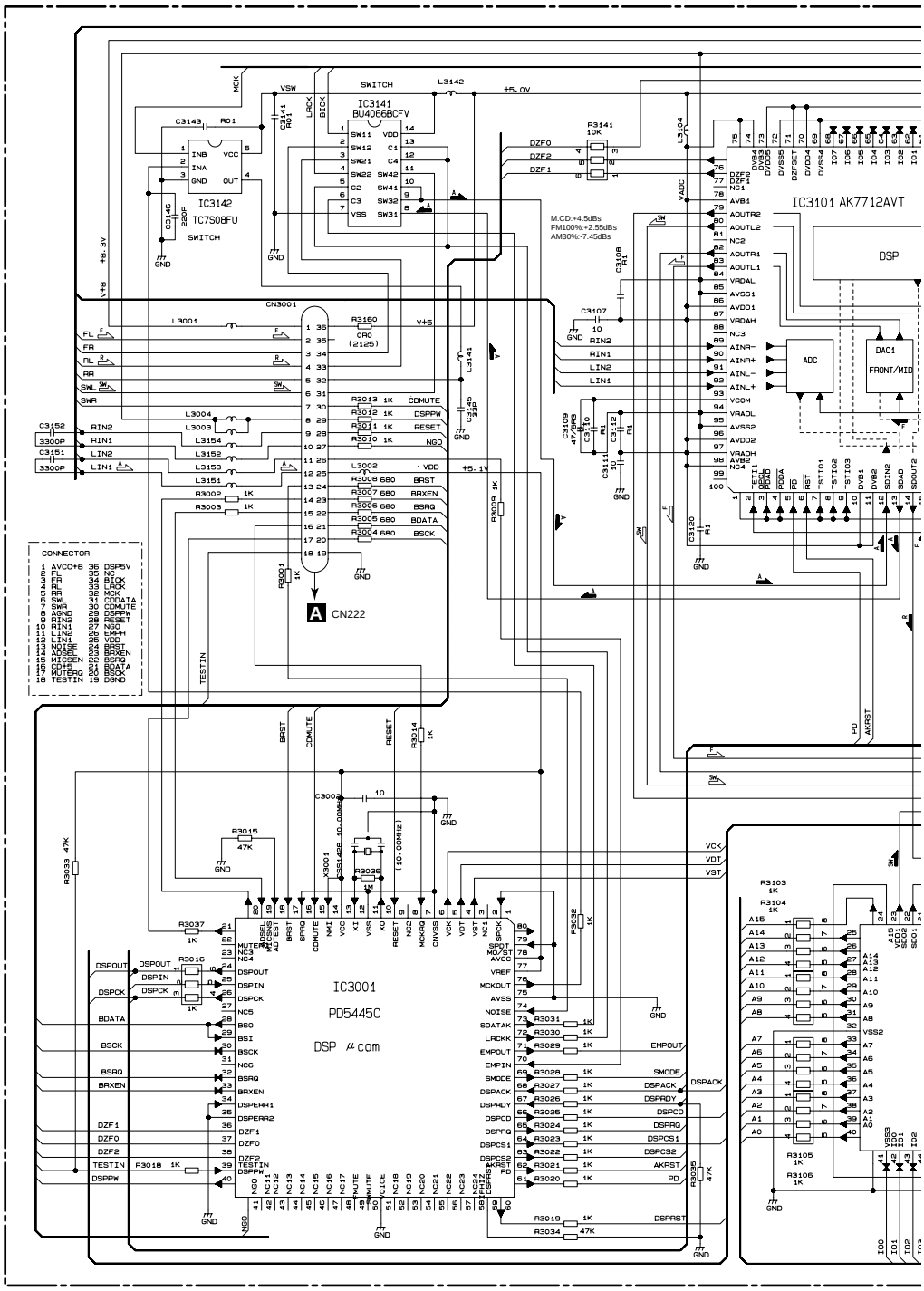
C KEYBOARD PCB



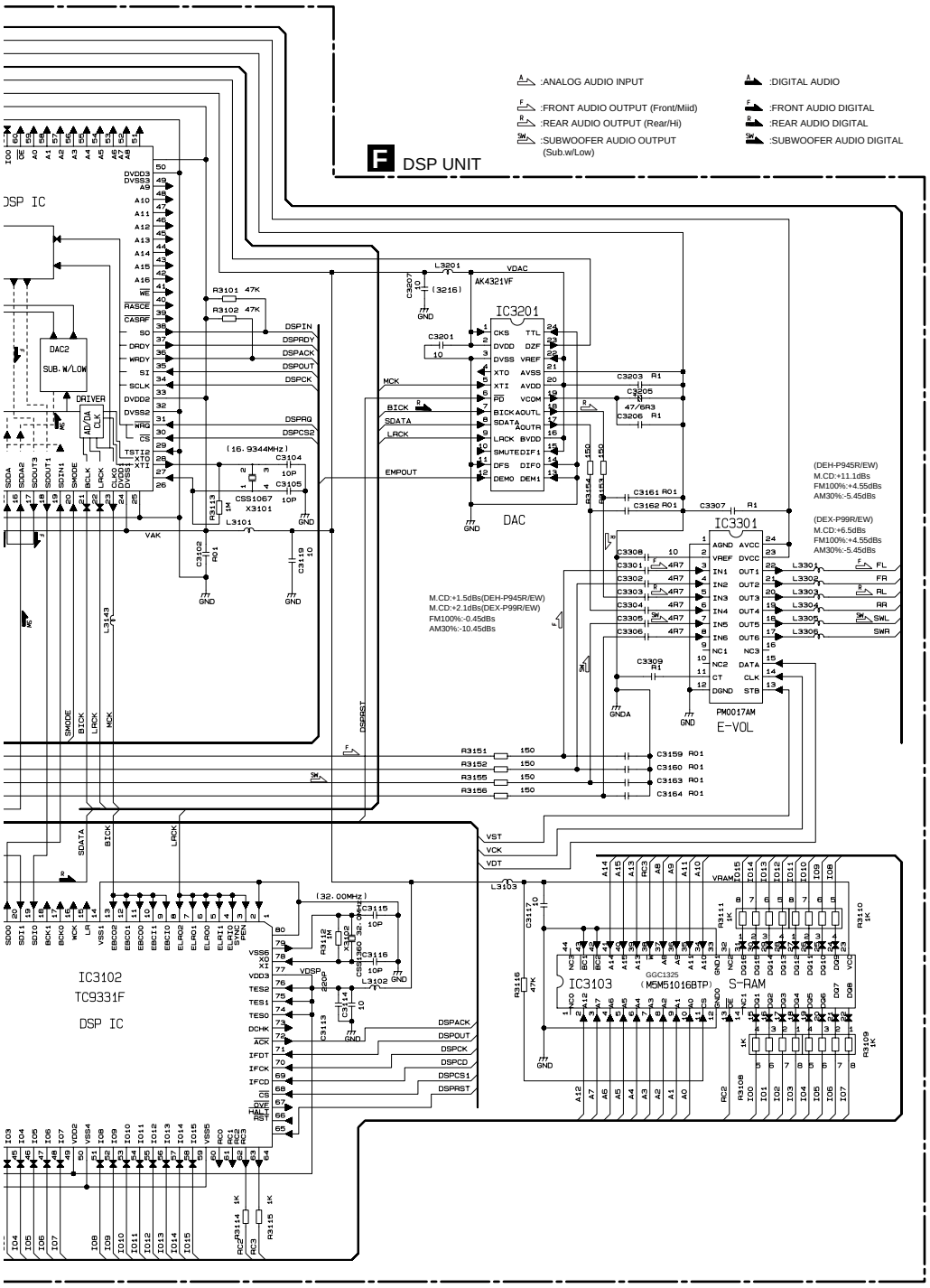
3.5 DSP UNIT(GUIDE PAGE)

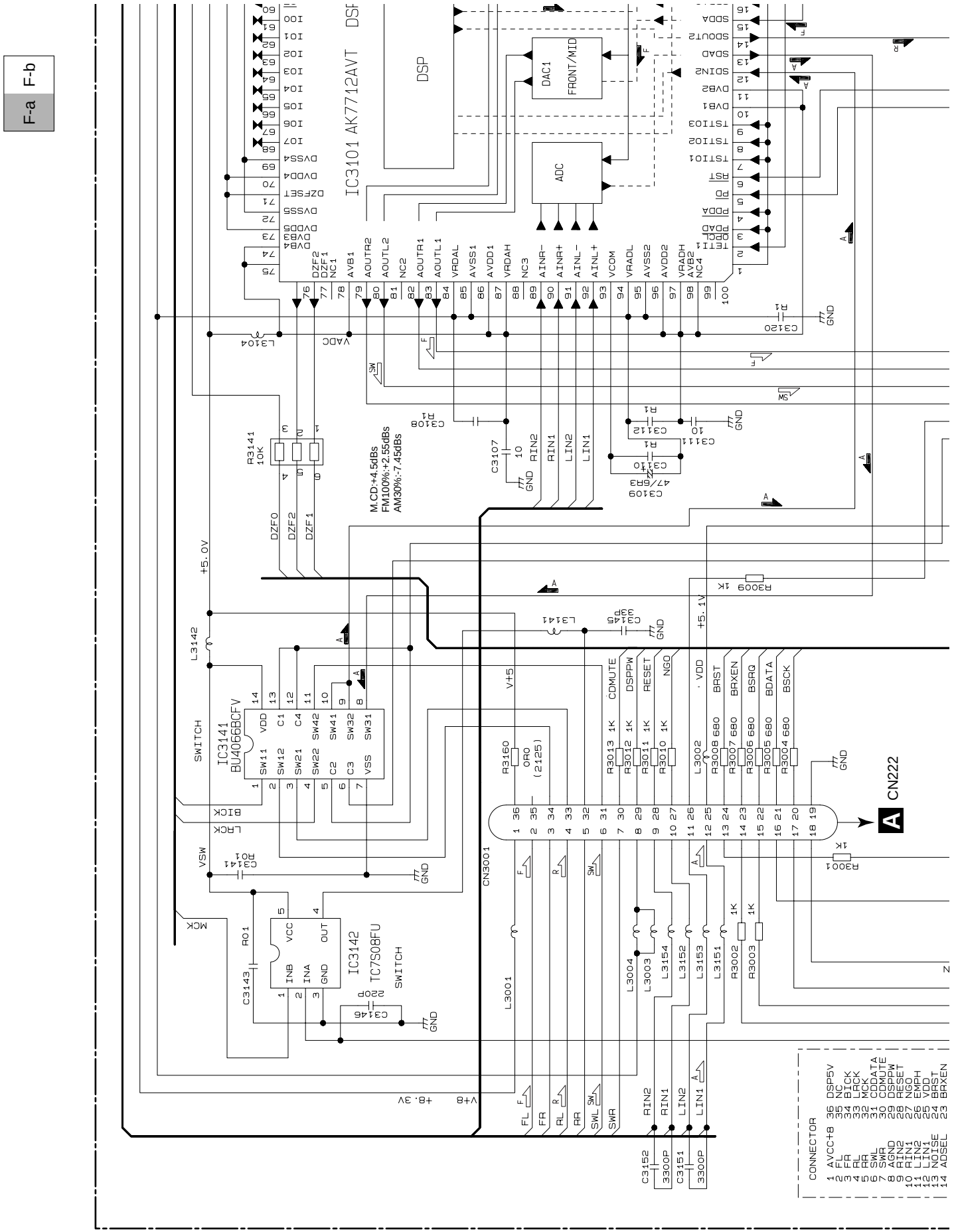


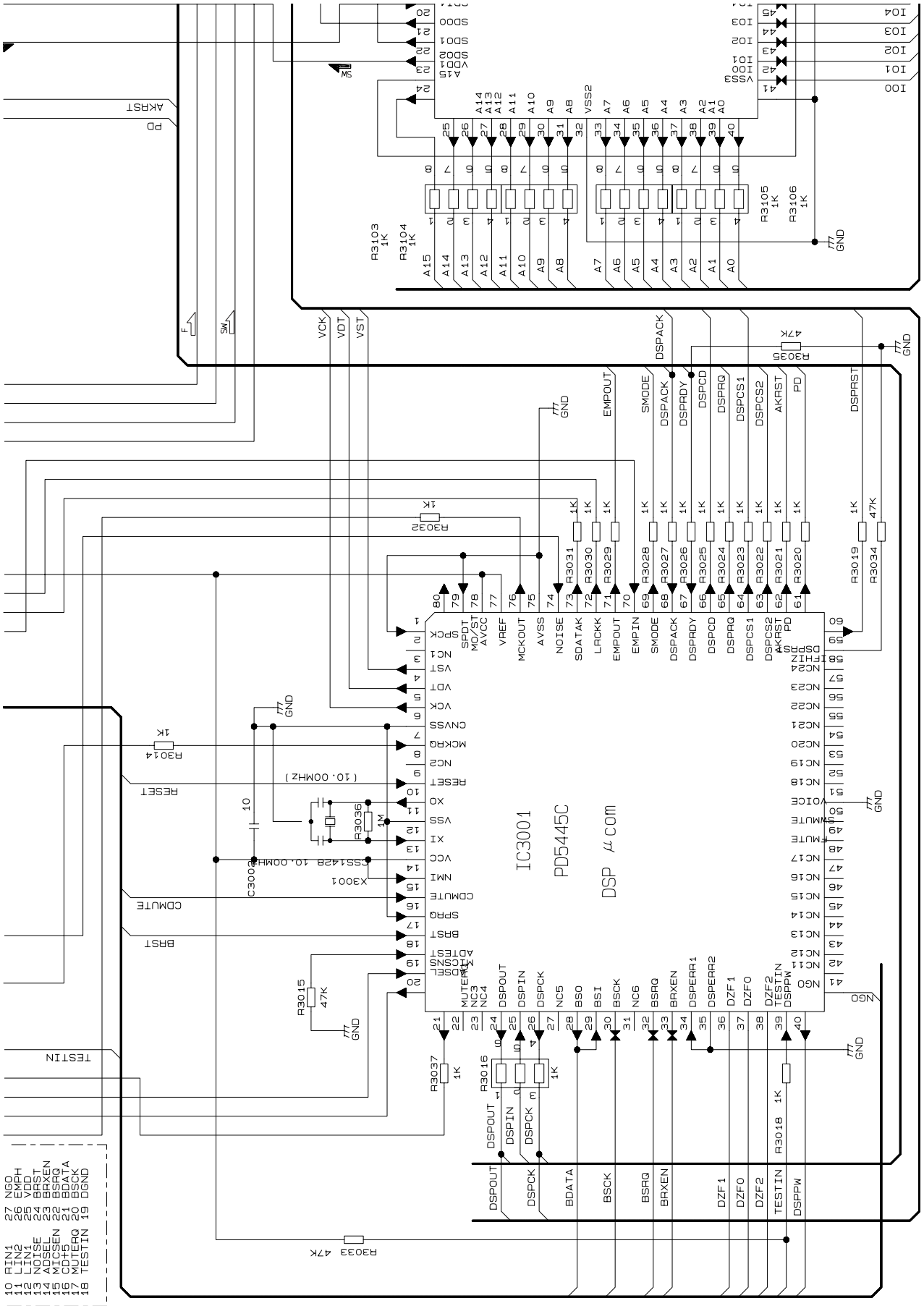
F-a

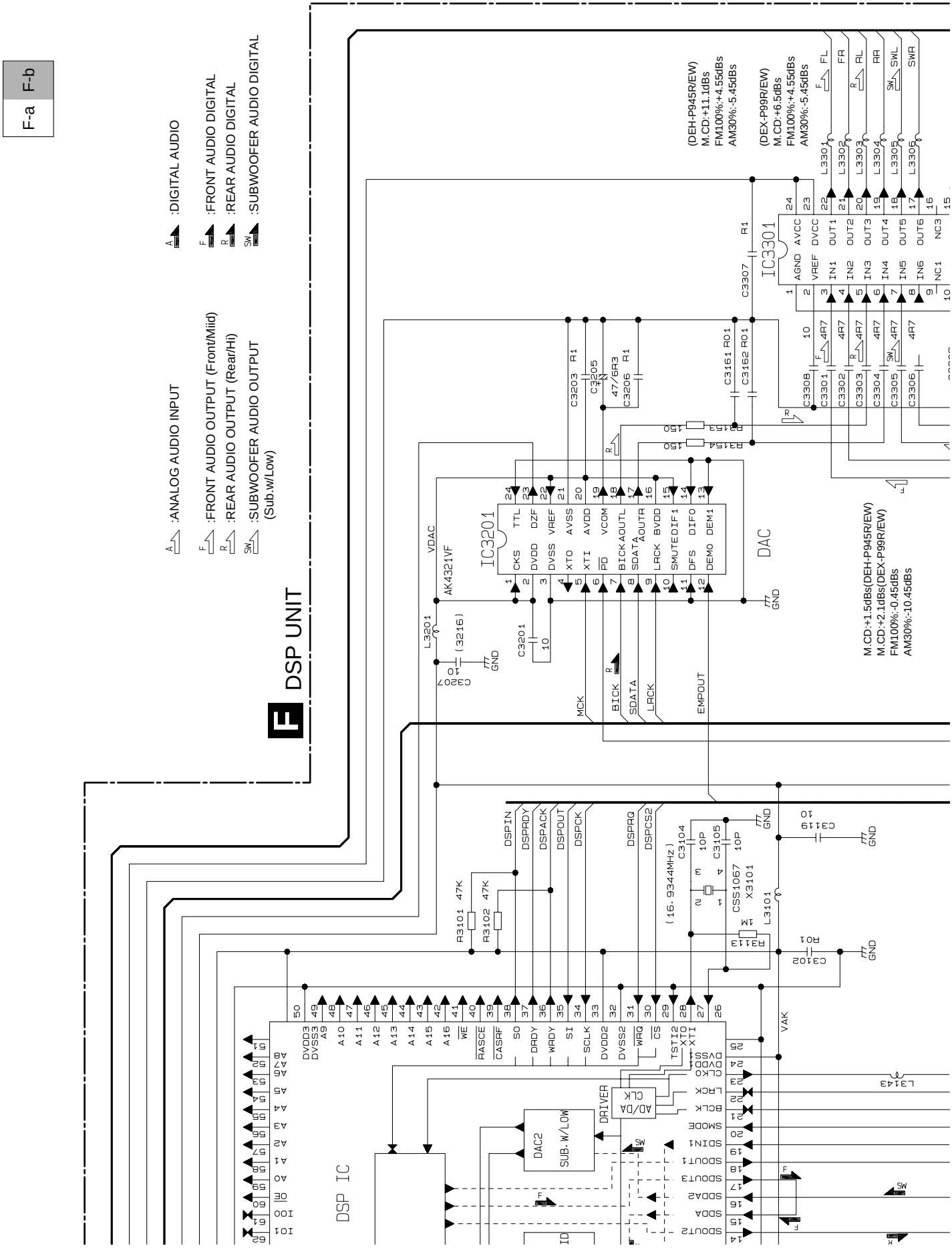


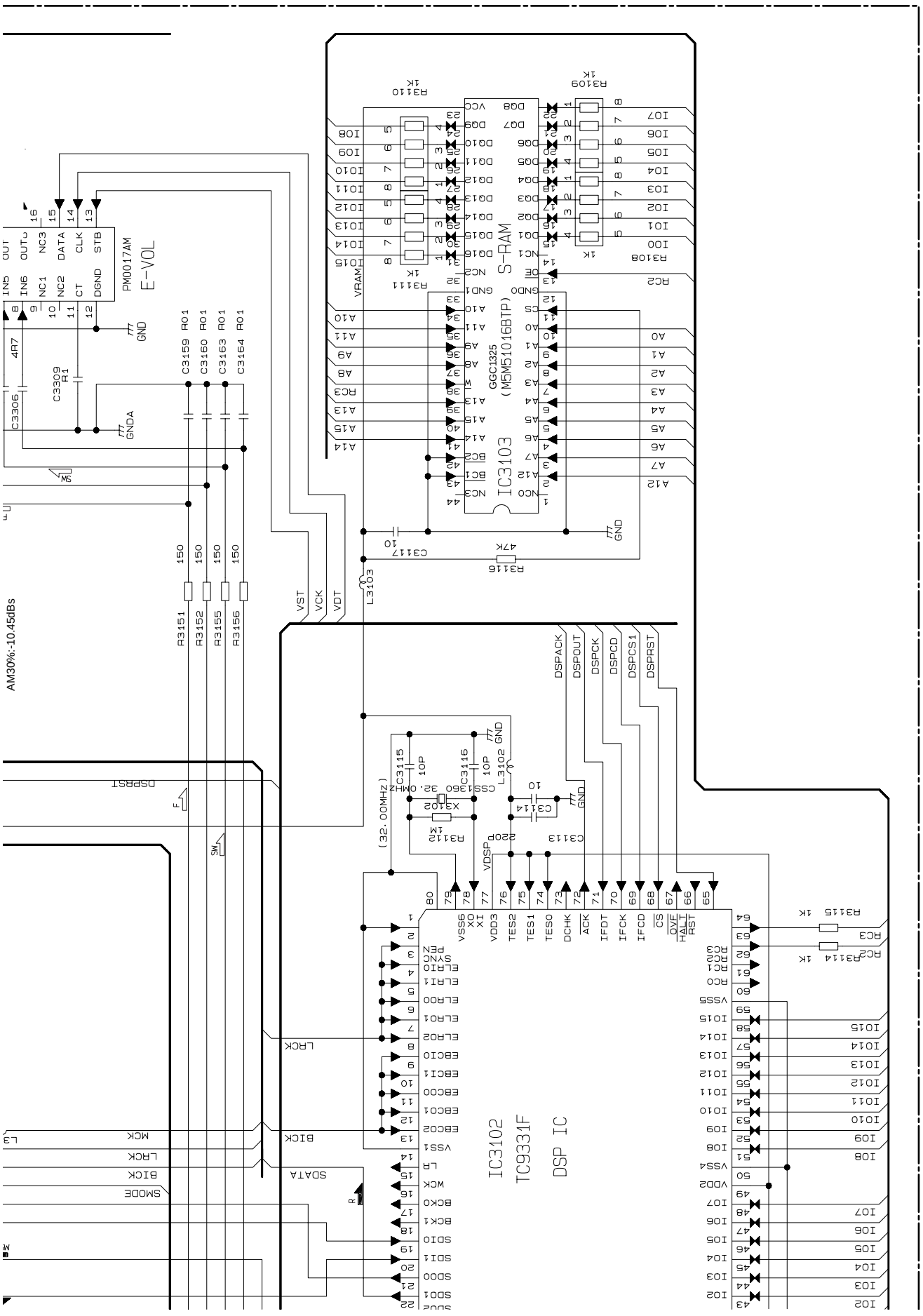
F-b


:ANALOG AUDIO INPUT
:DIGITAL AUDIO
:FRONT AUDIO OUTPUT (Front/Mlid)
:REAR AUDIO OUTPUT (Rear/Hi)
:SUBWOOFER AUDIO OUTPUT (Sub.w/Low)
:FRONT AUDIO DIGITAL
:REAR AUDIO DIGITAL
:SUBWOOFER AUDIO DIGITAL
F DSP UNIT
DSP IC
DAC2
SUB.W/LOW
DRIVER
AD/DA CLK
(16.9344MHz)
X3101
VAK
DAC
IC3201
AK4321VF
VDAC
MCK
BICK
SDATA
LRCK
EMPOUT
DSPIN
DSPRDY
DSPACK
DSPOUT
DSPCK
DSPRQ
DSPCS2
DSPRST
IC3301
PM0017AM
E-VOL
(DEH-P945R/EW)
M.CD:+11.1dBs
FM100%:+4.55dBs
AM30%:-5.45dBs
(DEX-P99R/EW)
M.CD:+6.5dBs
FM100%:+4.55dBs
AM30%:-5.45dBs
M.CD:+1.5dBs(DEH-P945R/EW)
M.CD:+2.1dBs(DEX-P99R/EW)
FM100%:-0.45dBs
AM30%:-10.45dBs
FL
FR
RL
RR
SWL
SWR
IC3102
TC9331F
DSP IC
(32.00MHz)
X3102
VDSP
VST
VCK
VDT
IC3103
S-RAM
(M5M51016BTP)
GGC1325
VRAM
DSPACK
DSPOUT
DSPCK
DSPCD
DSPCS1
DSPRST

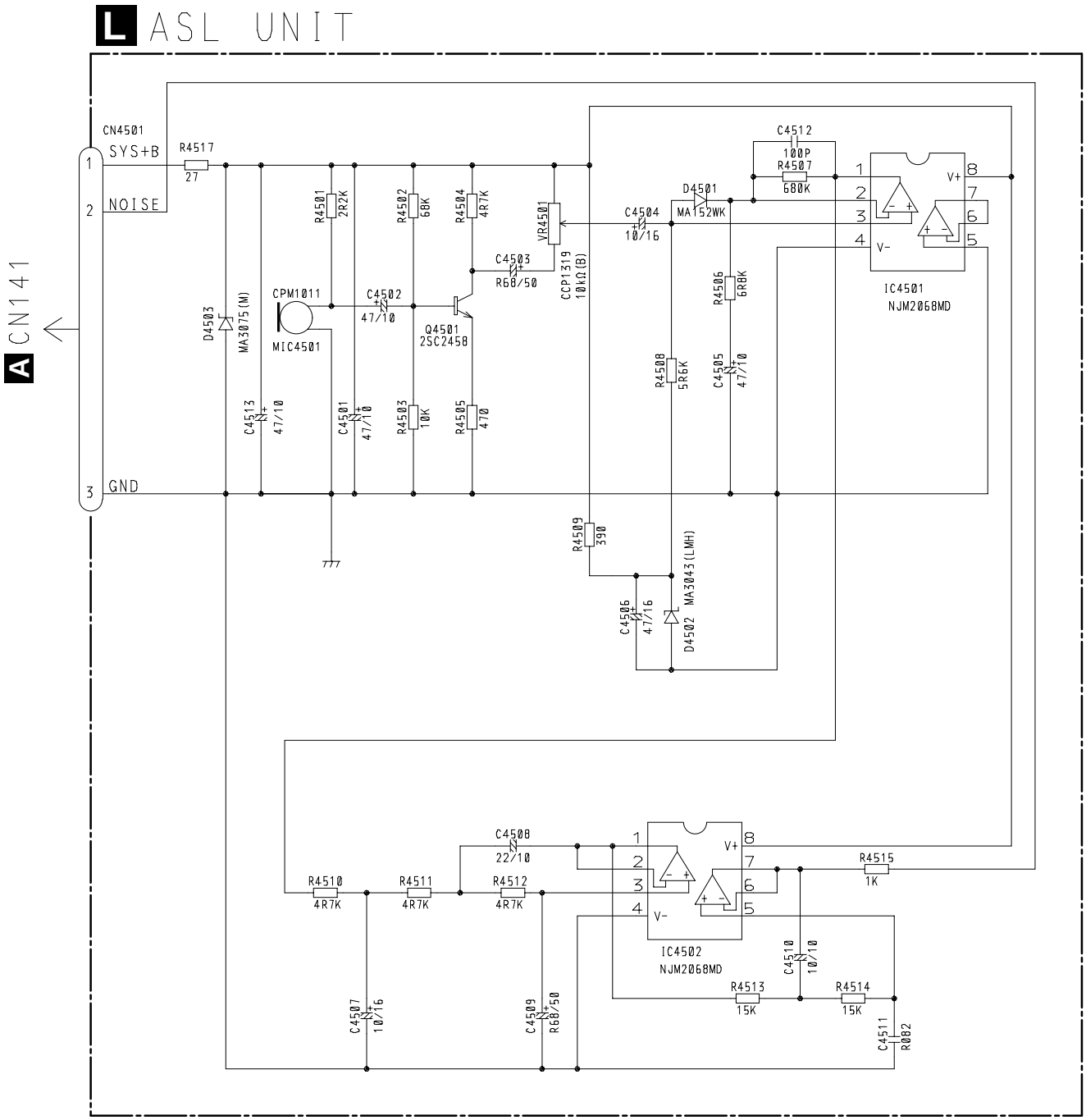

F-a F-b
IC3101 AK7712AVT DSP
DSP
DAC1
FRONT/MID
ADC
M.CD:+4.5dBs
FM100%:+2.55dBs
AM30%:-7.45dBs
IC3141
BU4066BCFV
SWITCH
IC3142
TC7S08FU
SWITCH
CN222
CN3001
CONNECTOR
1 AVCC+8
2 FL
3 FR
4 RL
5 RR
6 SWL
7 SWR
8 AGND
9 RIN2
10 RIN1
11 LIN2
12 LIN1
13 NOISE
14 ADSEL
36 DSP5V
35 NC
34 BICK
33 LRCK
32 MCK
31 CDDATA
30 CDMUTE
29 DSPPW
28 RESET
27 EVPH
26 VDD
25 BRST
24 BRSTT
23 BRXEN


IC3001
PD5445C
DSP μcom
R3103 1K
R3104 1K
R3105 1K
R3106 1K
R3035 47K
R3032 1K
R3031 1K
R3030 1K
R3029 1K
R3028 1K
R3027 1K
R3026 1K
R3025 1K
R3024 1K
R3023 1K
R3022 1K
R3021 1K
R3020 1K
R3019 1K
R3034 47K
R3014 1K
R3036 1M
R3015 47K
R3037 1K
R3016 1K
R3018 1K
R3033 47K
C3001 10
X3001 (10.00MHZ)
AKRST
PD
VCK
VDT
VST
DSPACK
SMODE
DSPRDY
DSPCD
DSPRQ
DSPCS1
DSPCS2
DSPRST
EMPOUT
RESET
CDMUTE
BRST
TESTIN
DSPOUT
DSPIN
DSPCK
BDATA
BSCK
BSRQ
BRXEN
DZF1
DZF0
DZF2
TESTIN
DSPPW
GND

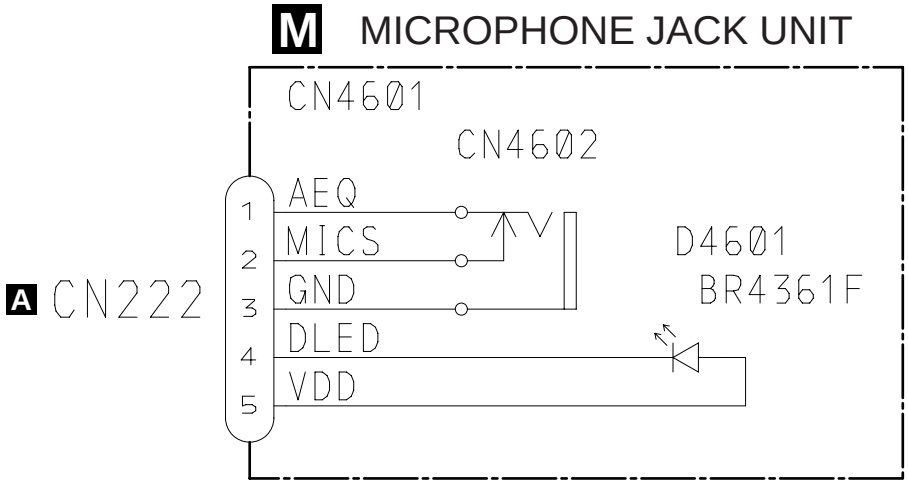

F-a F-b
:DIGITAL AUDIO
:FRONT AUDIO DIGITAL
:REAR AUDIO DIGITAL
:SUBWOOFER AUDIO DIGITAL
:ANALOG AUDIO INPUT
:FRONT AUDIO OUTPUT (Front/Mild)
:REAR AUDIO OUTPUT (Rear/Hi)
:SUBWOOFER AUDIO OUTPUT (Sub.w/Low)
F DSP UNIT
DSP IC
DAC
IC3201
AK4321VF
IC3301
DRIVER
DAC2
SUB.W/LOW
(DEH-P945R/EW)
M.CD:+11.1dBs
FM100%:+4.55dBs
AM30%:-5.45dBs
(DEX-P99R/EW)
M.CD:+6.5dBs
FM100%:+4.55dBs
AM30%:-5.45dBs
M.CD:+1.5dBs(DEH-P945R/EW)
M.CD:+2.1dBs(DEX-P99R/EW)
FM100%:-0.45dBs
AM30%:-10.45dBs
(16.9344MHz)
CSS1067
X3101
L3101
MCK
BICK
SDATA
LRCK
EMPOUT
DSPIN
DSPRDY
DSPACK
DSPOUT
DSPCK
DSPRQ
DSPCS2
VDAC
VAK
GND


IC3103
S-RAM
GGC1325
(M5M51016BTP)
IC3102
TC9331F
DSP IC
E-VOL
PM0017AM
AM30%:-10.45dBs
(32.00MHz)
VST
VCK
VDT
LRCK
BICK
SDATA
SMODE
MCK
DSPRST
DSPACK
DSPOUT
DSPCK
DSPCD
DSPCS1
DSPRST
GND
VDSP

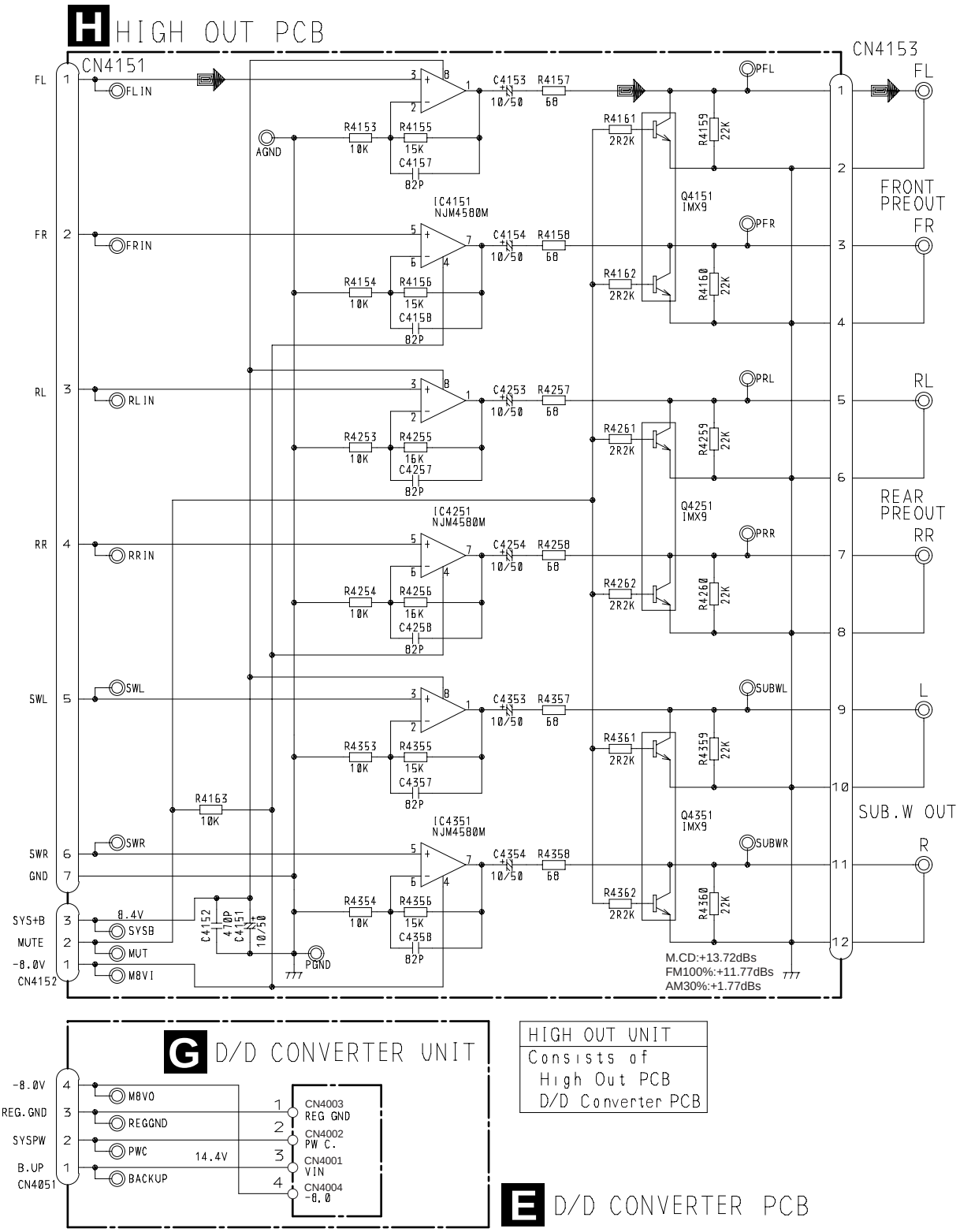
3.6 ASL UNIT


ASL UNIT
CN4501
SYS+B
NOISE
GND
R4517
27
R4501
2R2K
R4502
68K
R4504
4R7K
VR4501
CCP1319
10kΩ(B)
C4503
R68/50
C4502
47/10
Q4501
2SC2458
CPM1011
MIC4501
D4503
MA3075(M)
C4513
47/10
C4501
47/10
R4503
10K
R4505
470
C4504
10/16
D4501
MA152WK
C4512
100P
R4507
680K
R4506
6R8K
R4508
5R6K
C4505
47/10
IC4501
NJM2068MD
R4509
390
C4506
47/16
D4502 MA3043(LMH)
C4508
22/10
R4510
4R7K
R4511
4R7K
R4512
4R7K
R4515
1K
IC4502
NJM2068MD
C4510
10/10
R4513
15K
R4514
15K
C4511
R082
C4507
10/16
C4509
R68/50
CN141
V+
V-

3.7 MICROPHONE JACK UNIT

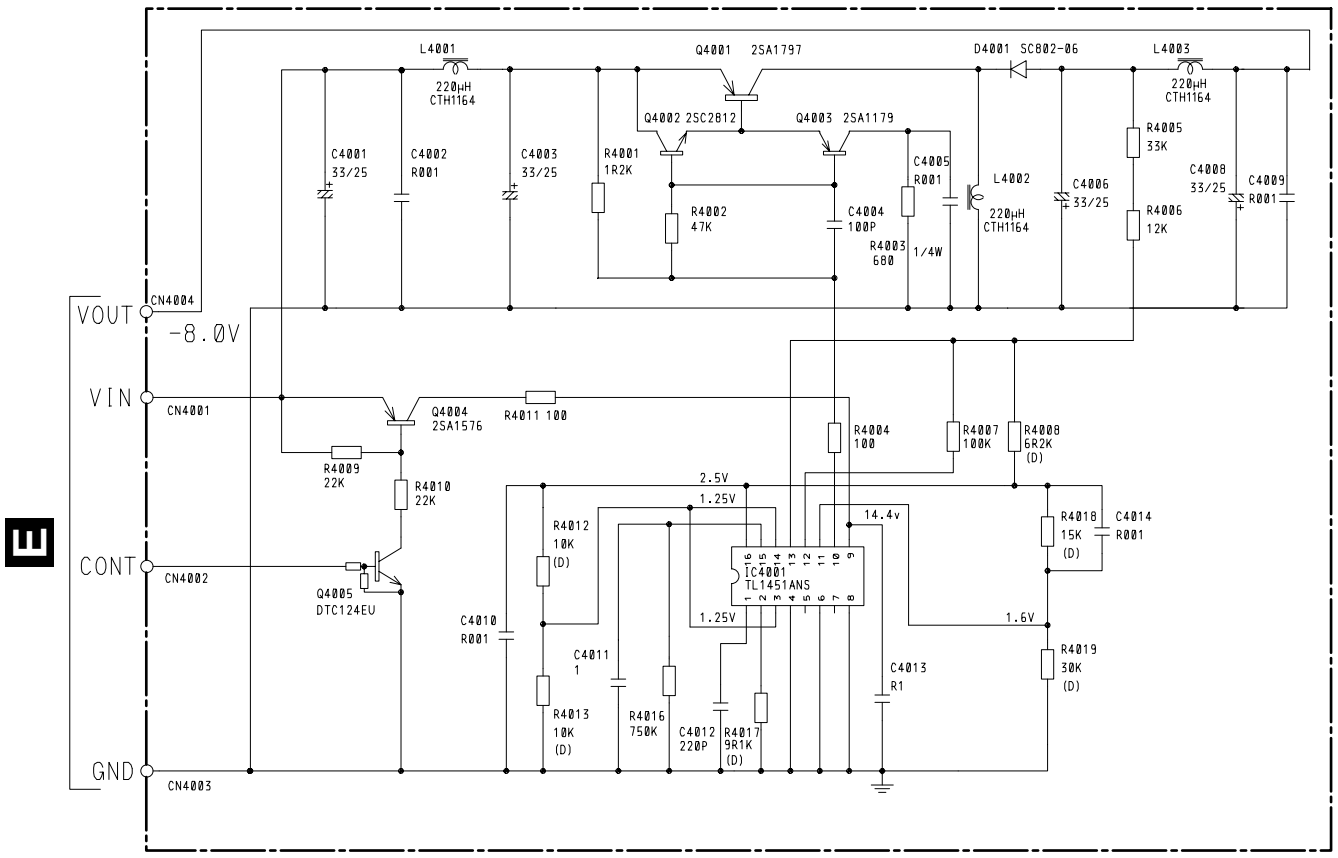


3.8 HIGH OUT UNIT (DEX-P99R/EW)



3.9 D/D CONVERTER UNIT (DEX-P99R/EW)

G D/D CONVERTER UNIT

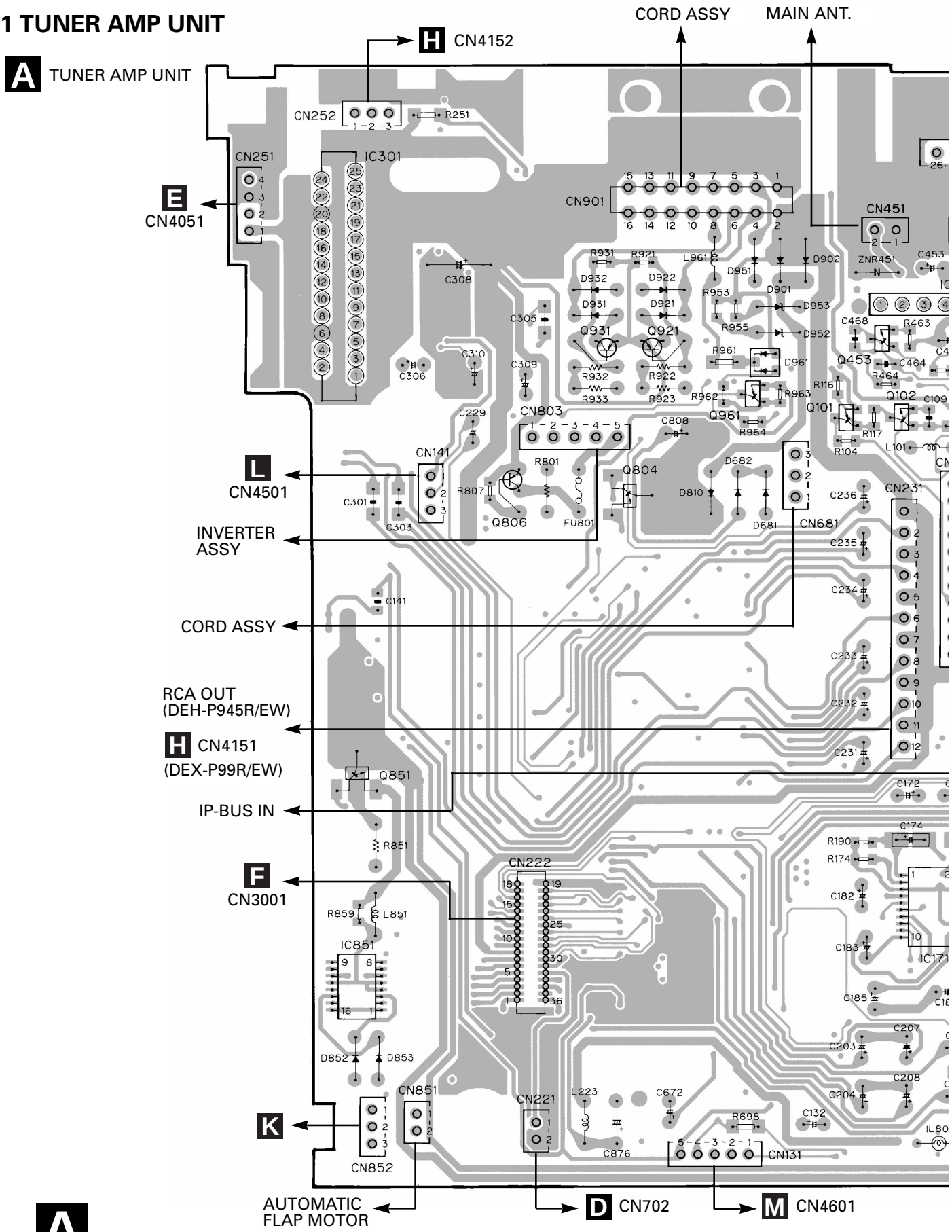


NOTE FOR PCB DIAGRAMS

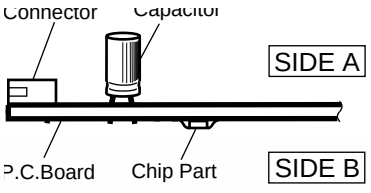
1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.

4. PCB CONNECTION DIAGRAM

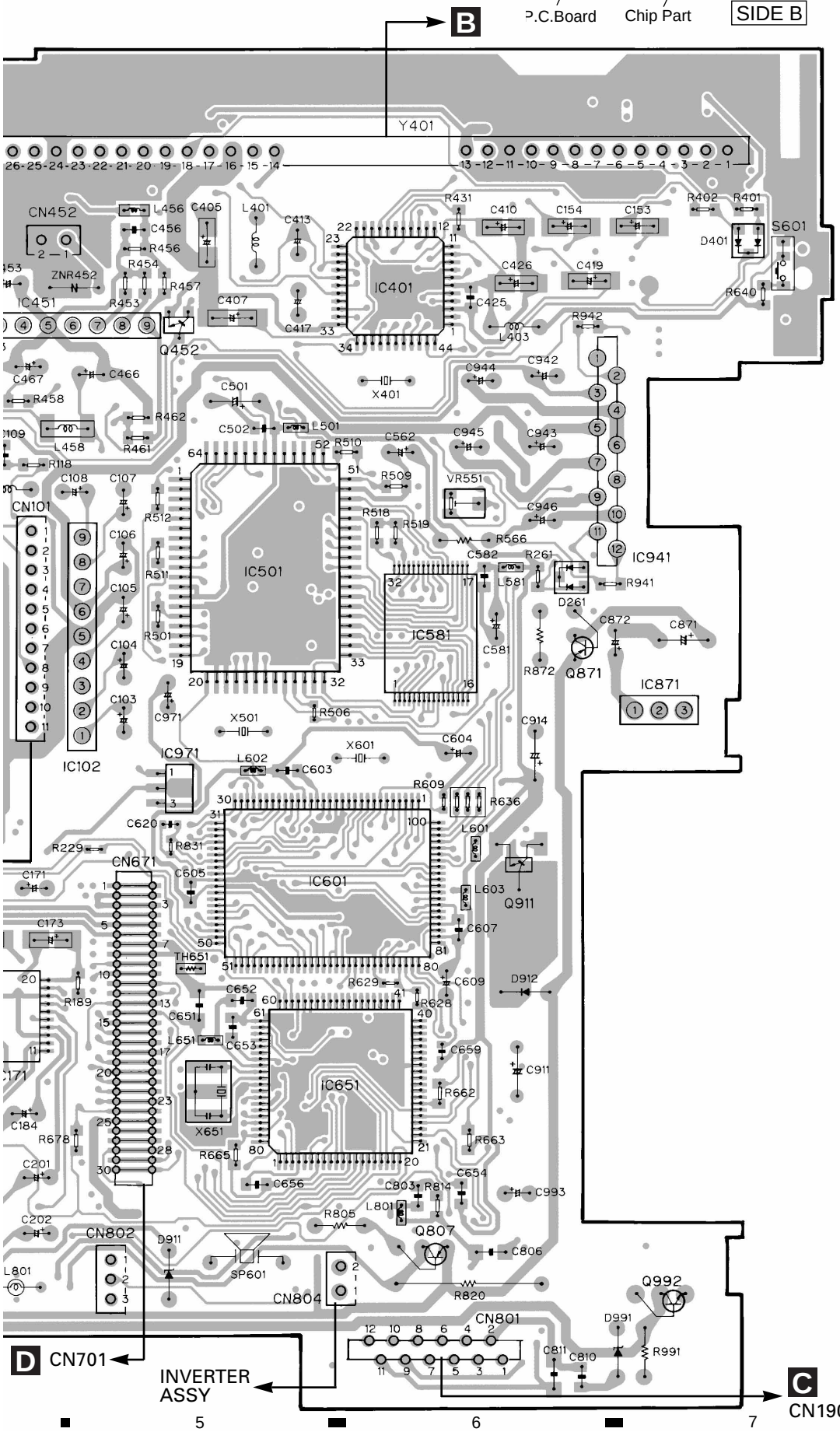
4.1 TUNER AMP UNIT



2. Viewpoint of PCB diagrams

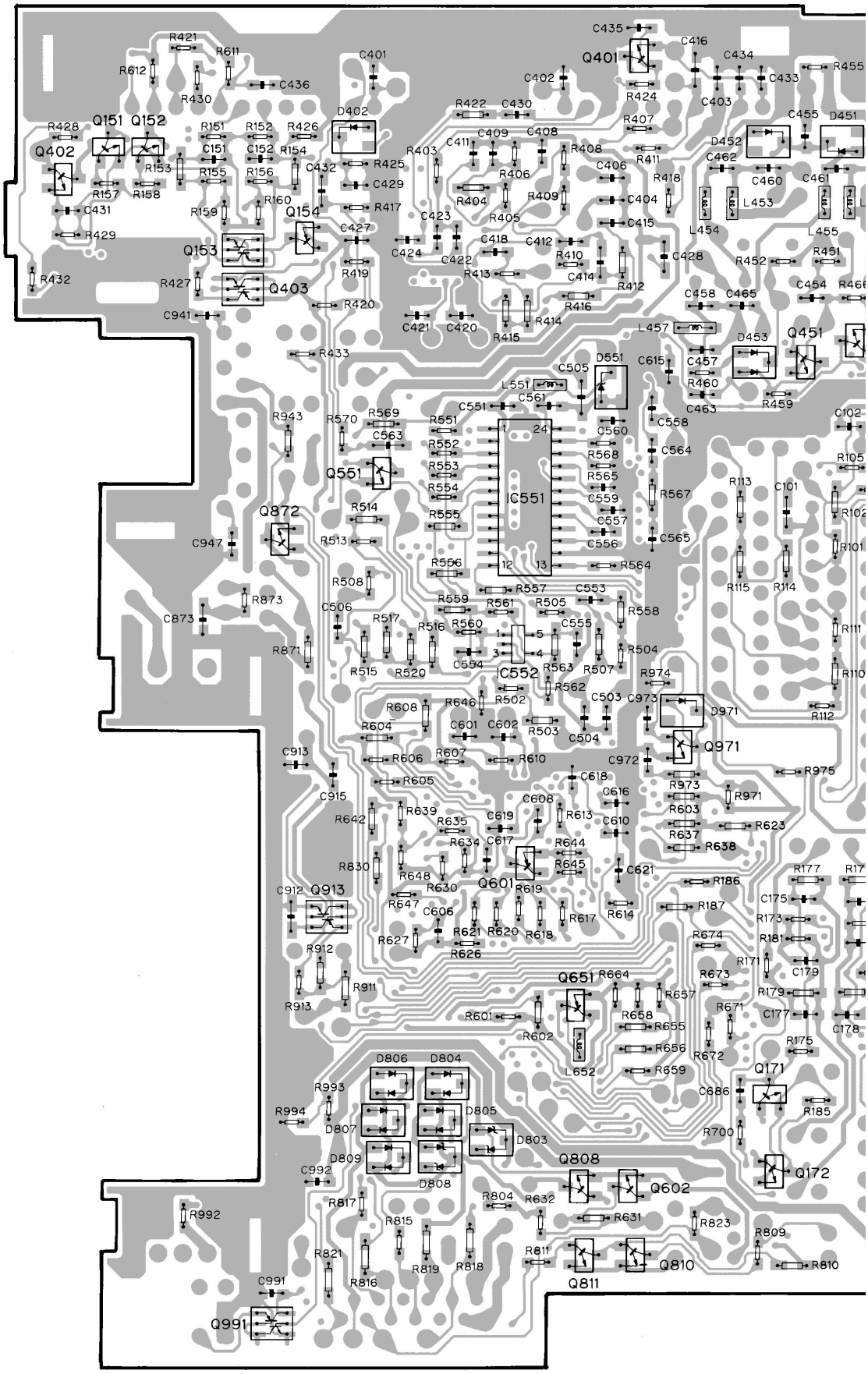


SIDE A

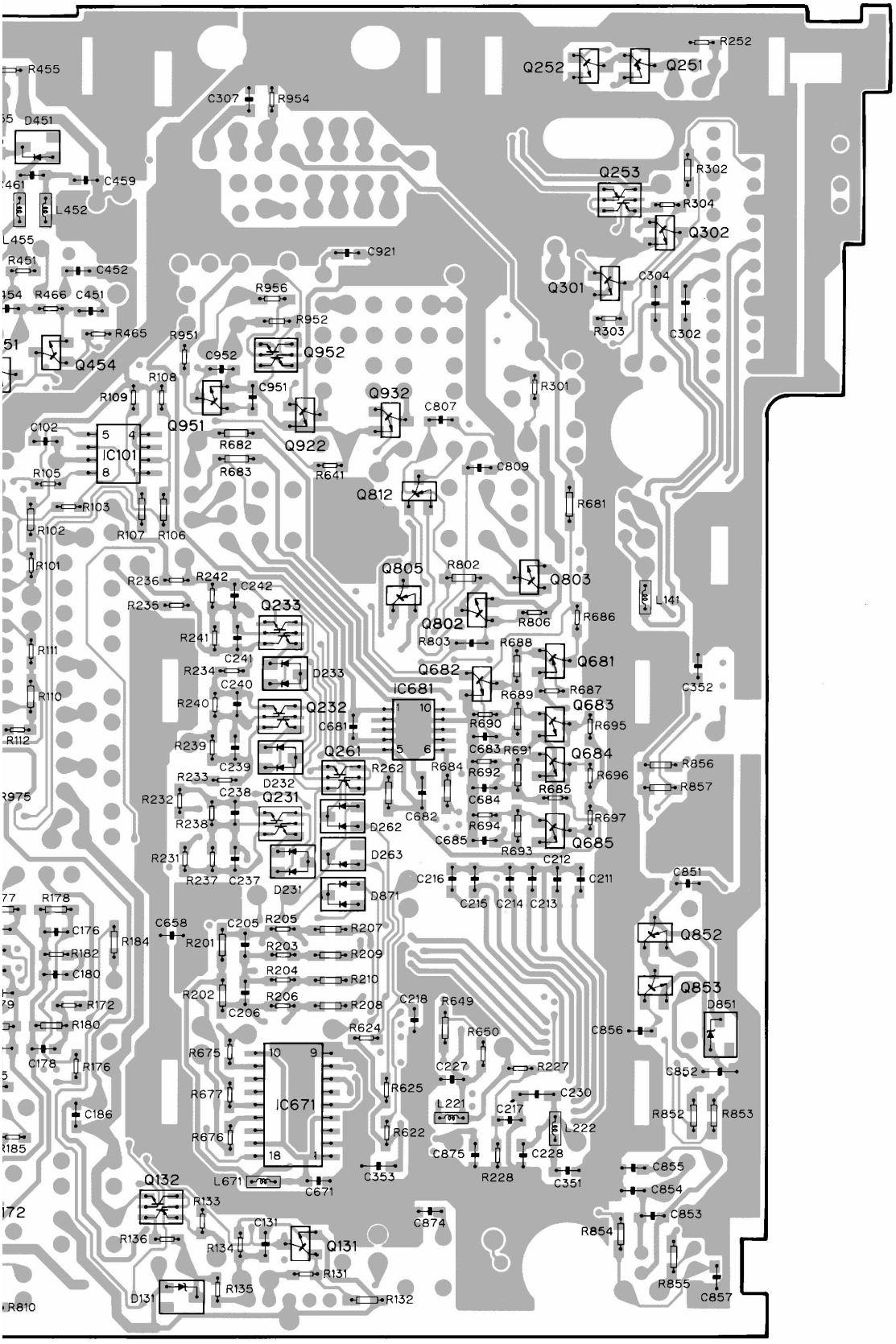


ADJ	IC, Q
	IC301 IC401
	IC451 Q452
	Q931 Q921 Q453
	Q961 IC941
	Q101 Q102
VR551	
	Q806 Q804 IC501
	IC102 IC581 Q871
	IC871
	IC971
	Q851 IC601 Q911
	IC171
	IC851 IC651
	Q807
	Q992

A TUNER AMP UNIT



SIDE B



IC, Q

A

Q401 Q252 Q251

Q151 Q152

Q402 Q253

Q302

Q154

Q153 Q301

Q403

Q454 Q952

Q451

Q951

Q922 Q932

B

IC101

Q551 Q812

IC551

Q872 Q803

Q805 Q802

Q233

IC552 Q681

Q682

Q232 IC681 Q683

Q971 Q261 Q684

Q231 Q685

C

Q601

Q852

Q913

Q853

Q651

IC671

Q171

Q172 Q132

Q808 Q602 Q131

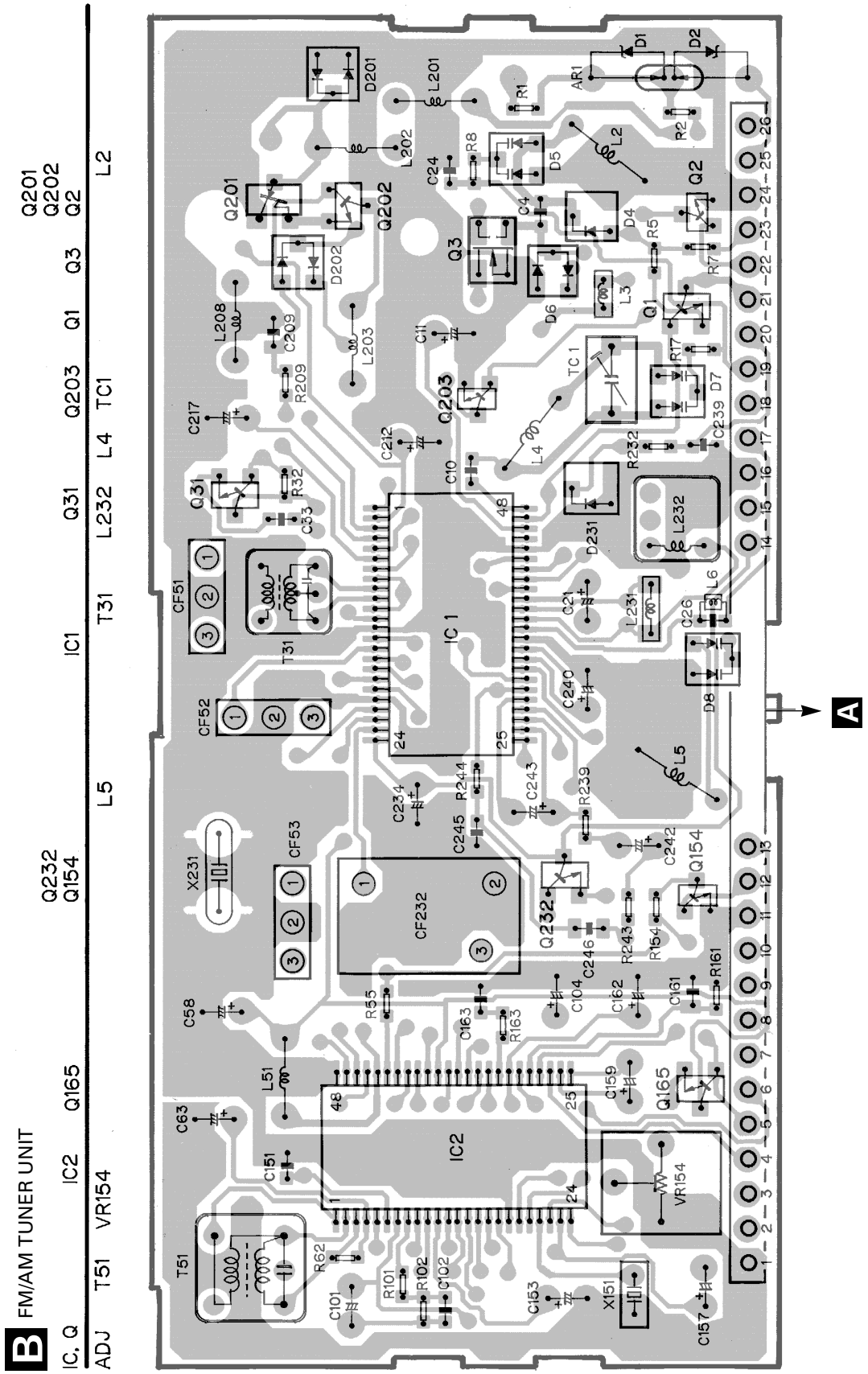
D

Q811 Q810

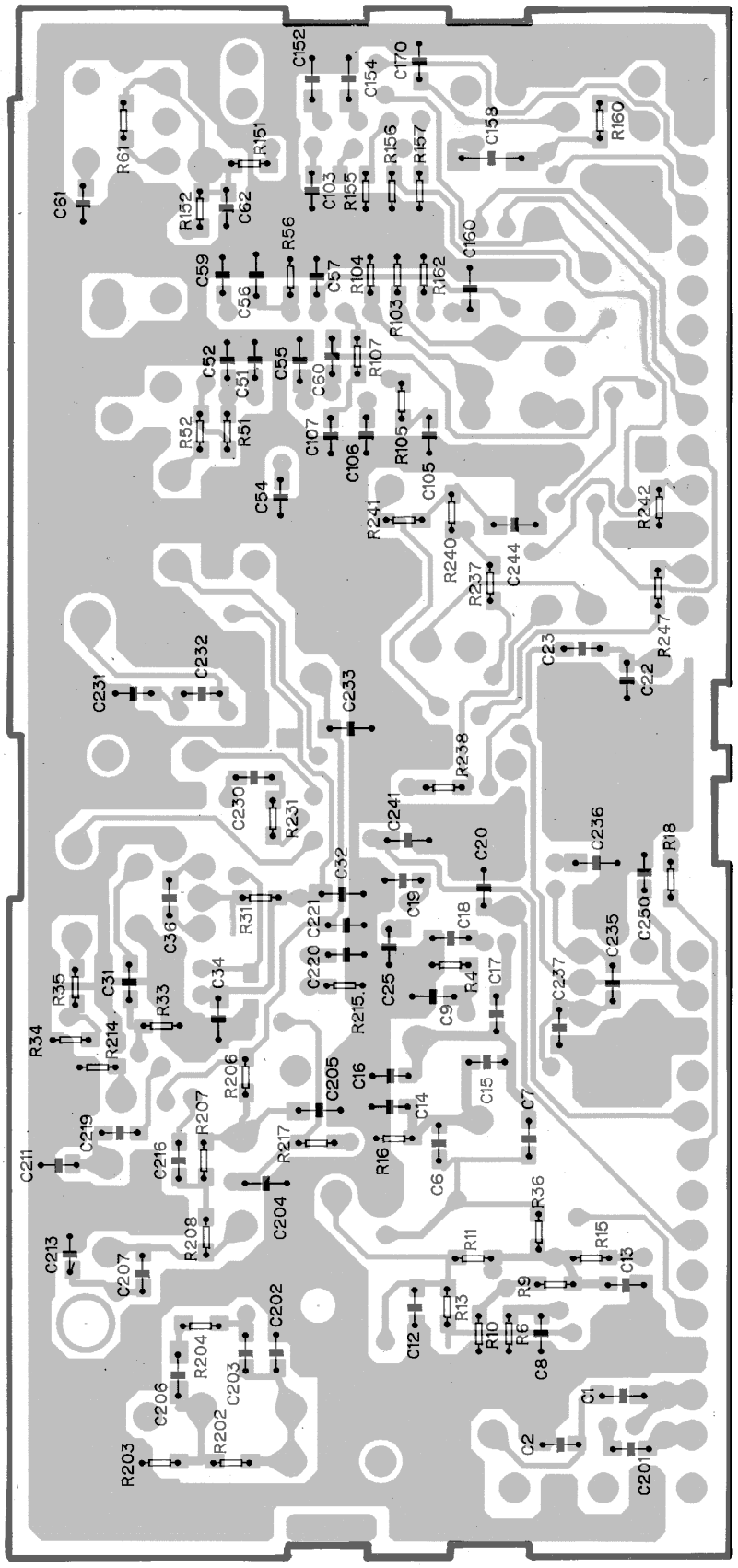
Q991

4.2 FM/AM TUNER UNIT

SIDE A



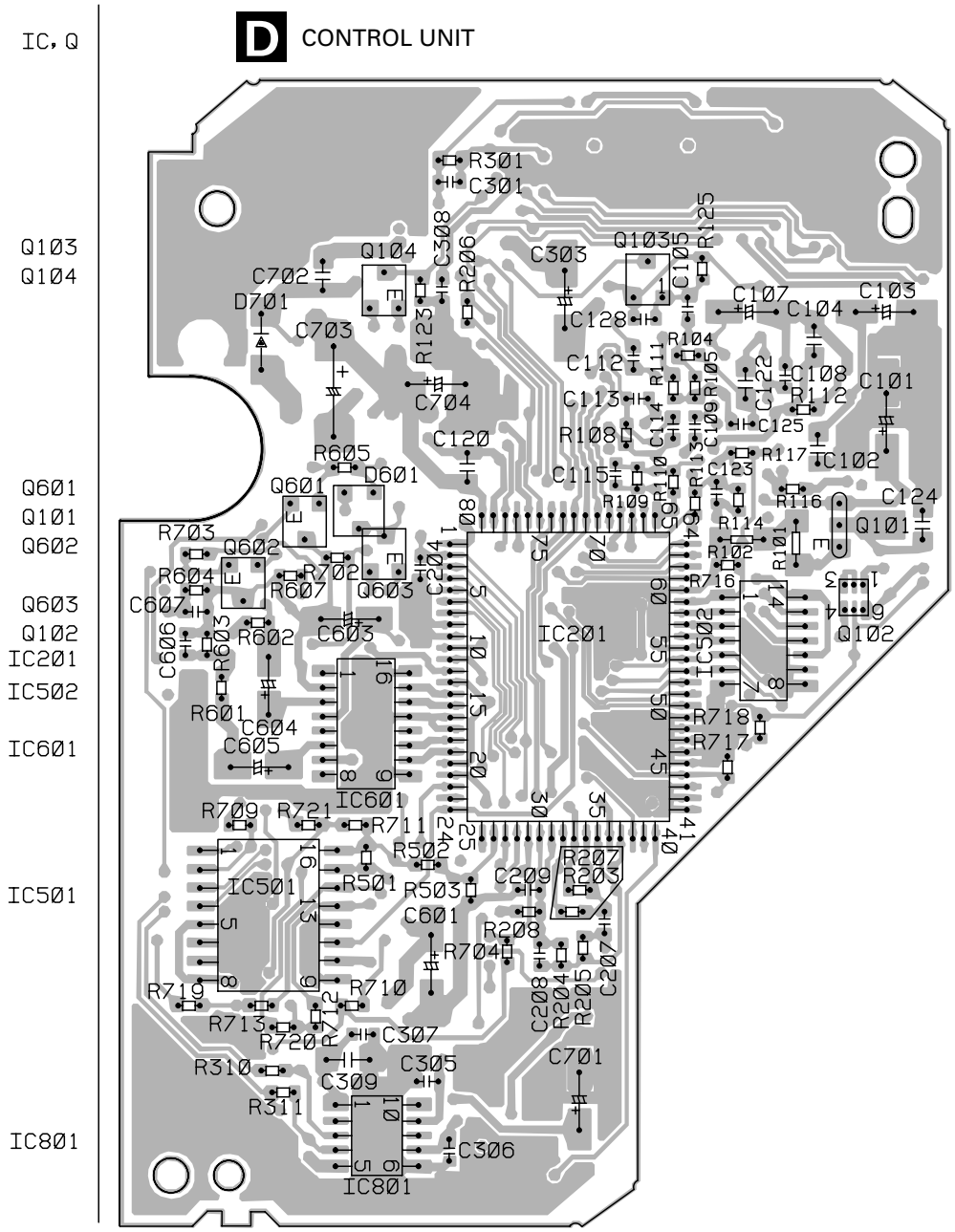
SIDE B



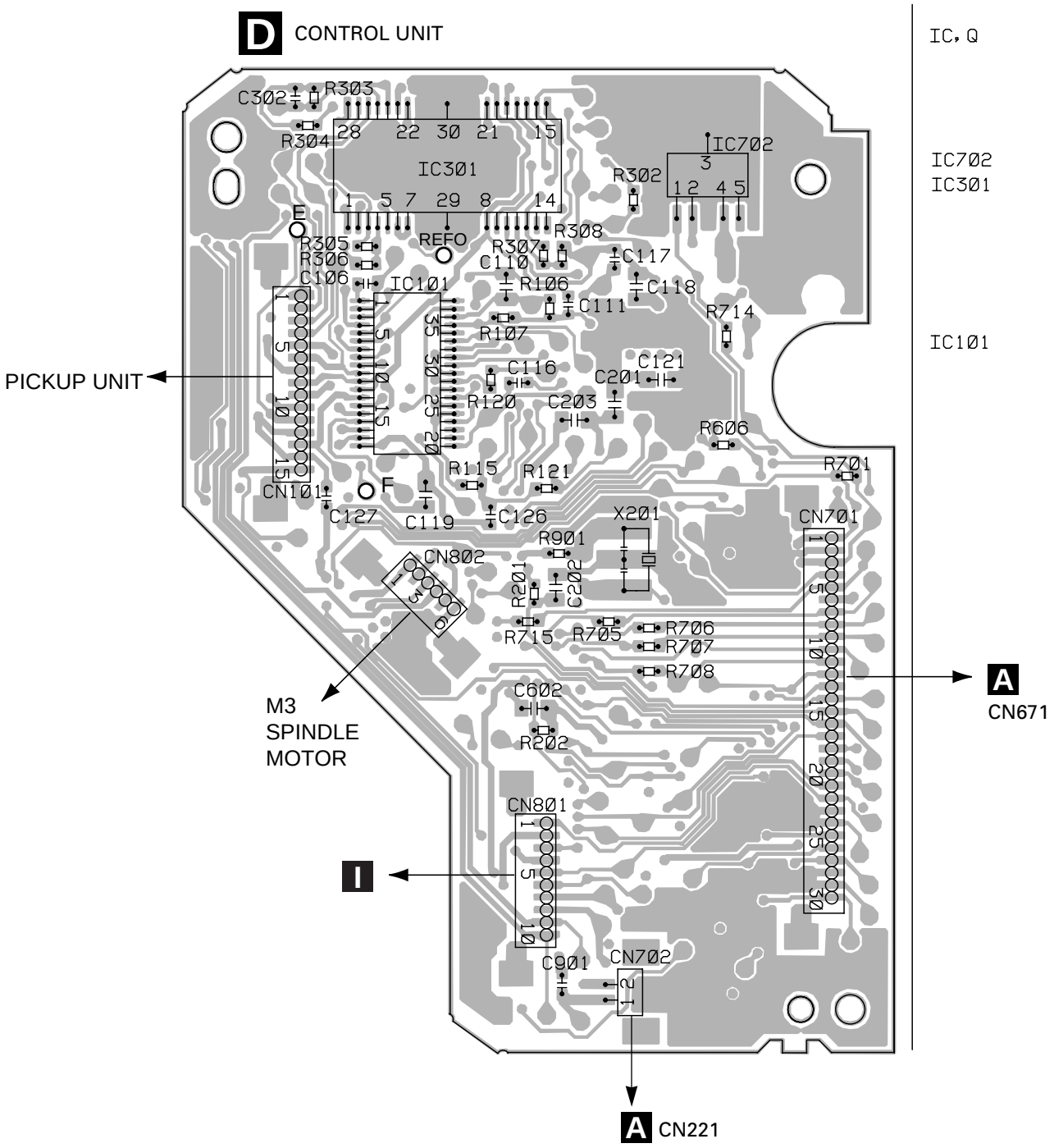
B FM/AM TUNER UNIT

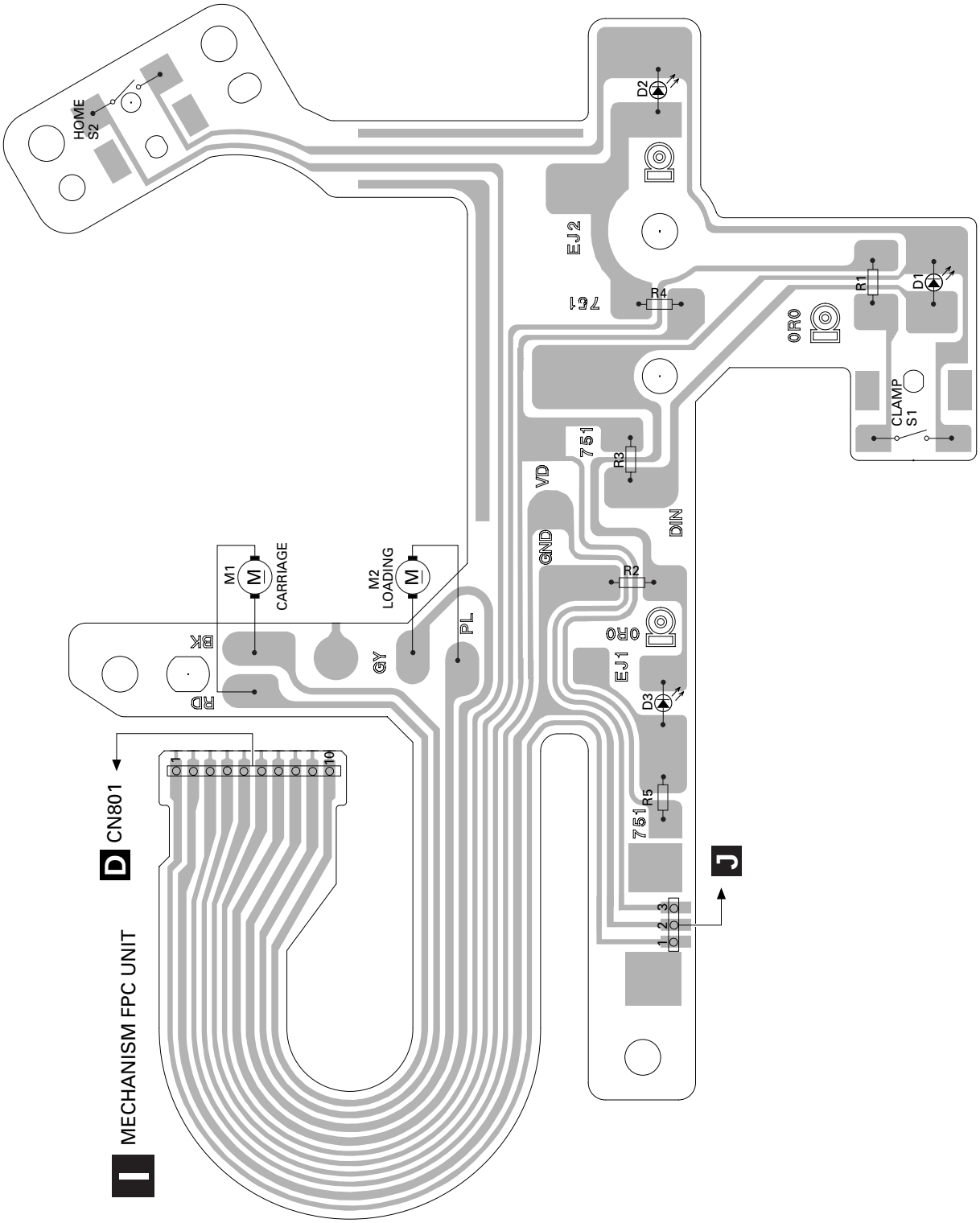
4.3 CD MECHANISM MODULE

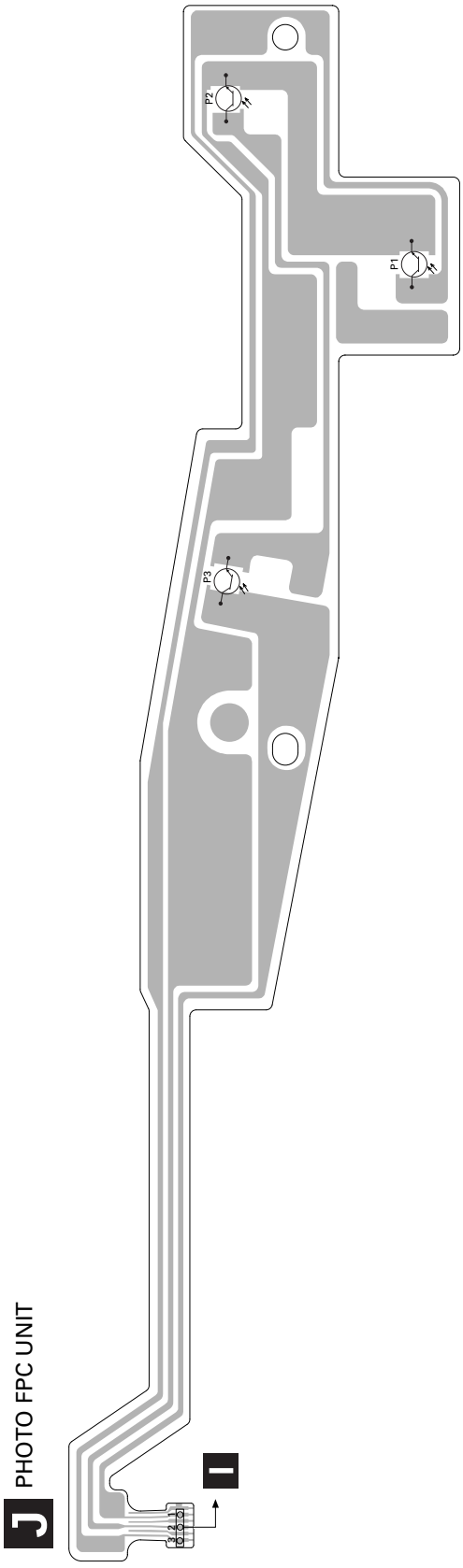
SIDE A



SIDE B


D CONTROL UNIT
IC, Q
IC702
IC301
IC101
PICKUP UNIT
M3
SPINDLE
MOTOR
A
CN671
I
A CN221
R303
C302
R304
IC301
IC702
R302
R308
REFO
R305
R306
C106
IC101
R307
C110
R106
C111
C117
C118
R714
R107
C116
C121
C201
R120
C203
R606
R115
R121
R701
CN101
C127
C119
C126
X201
CN701
R901
CN802
R201
C202
R715
R705
R706
R707
R708
C602
R202
CN801
C901
CN702

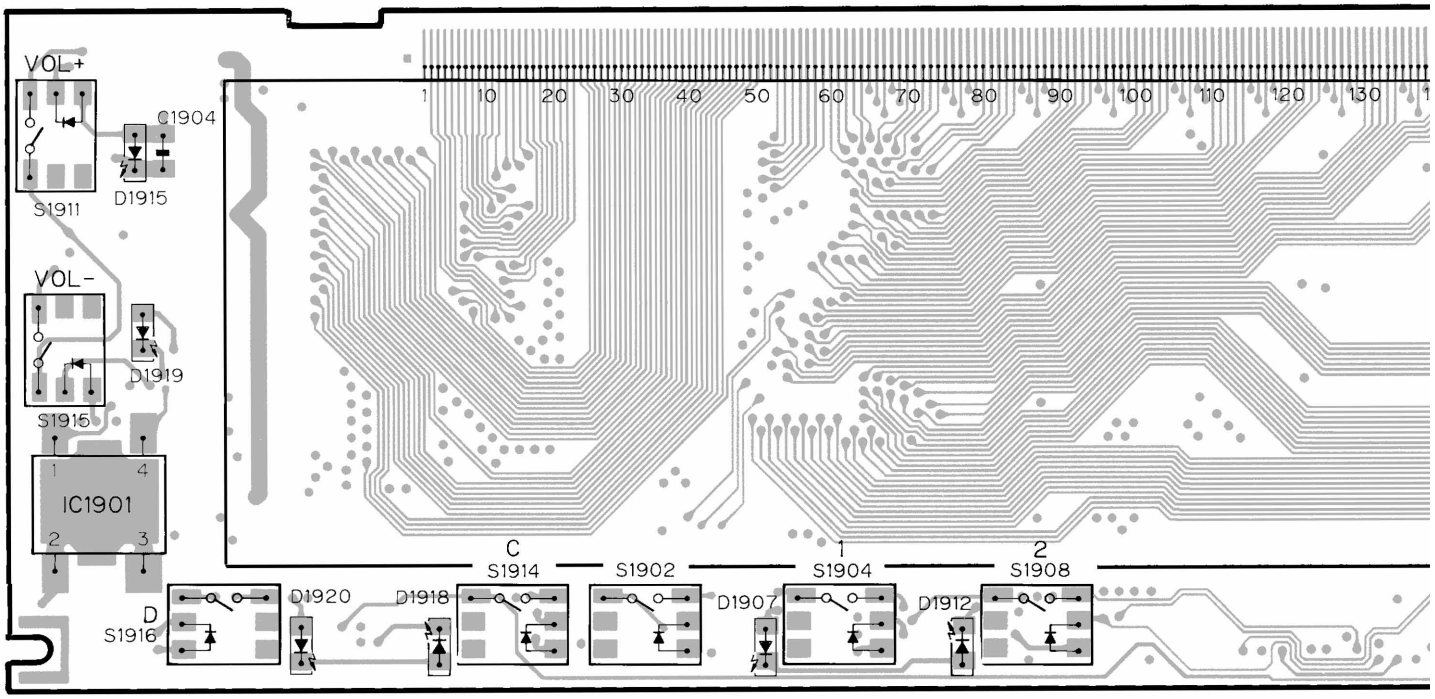

HOME
S2
D2
EJ2
R4
751
0R0
R1
D1
CLAMP
S1
R3
751
VD
GND
DIN
R2
0R0
EJ1
D3
R5
751
J
1 2 3
M1
CARRIAGE
M2
LOADING
BK
RD
GY
PL
D CN801
1
10
MECHANISM FPC UNIT
I


P2
P1
P3
J
PHOTO FPC UNIT
1
2
3
4

4.4 KEYBOARD UNIT

C KEYBOARD UNIT

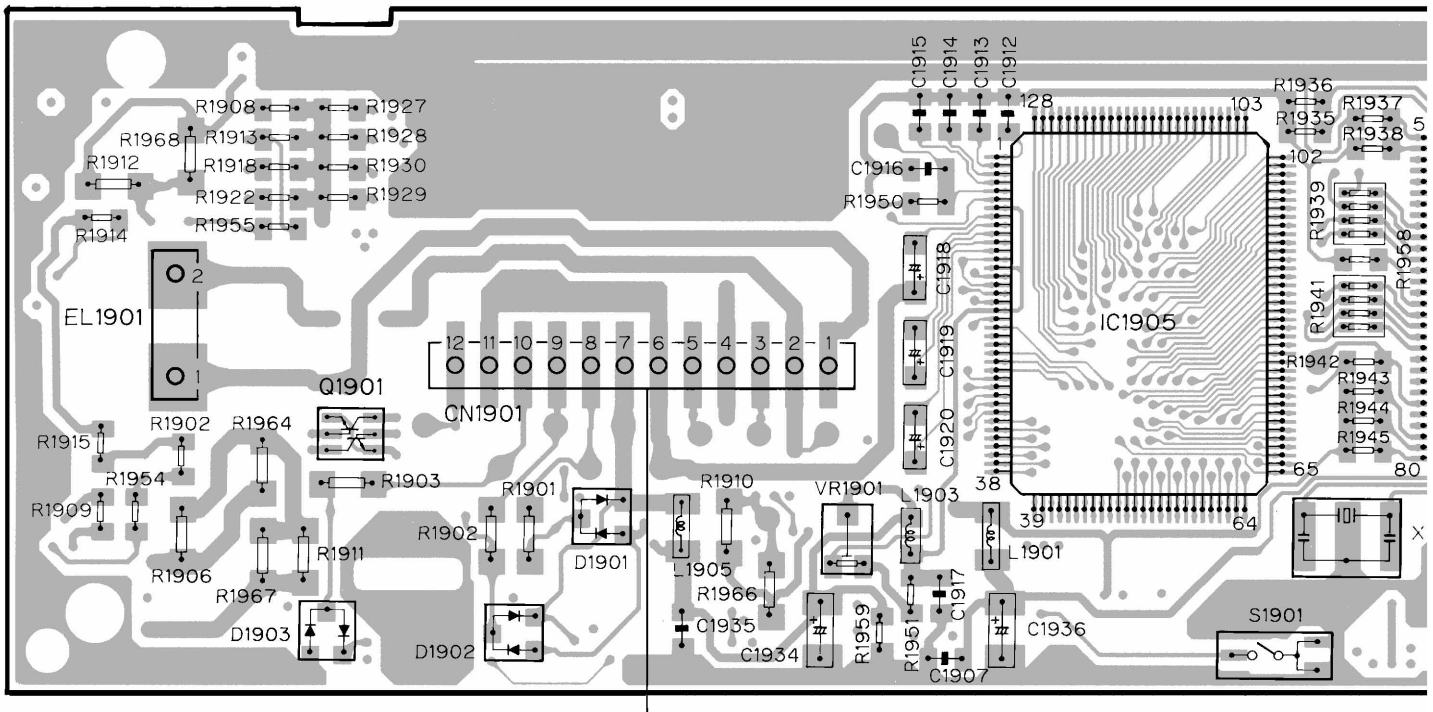
IC IC1901



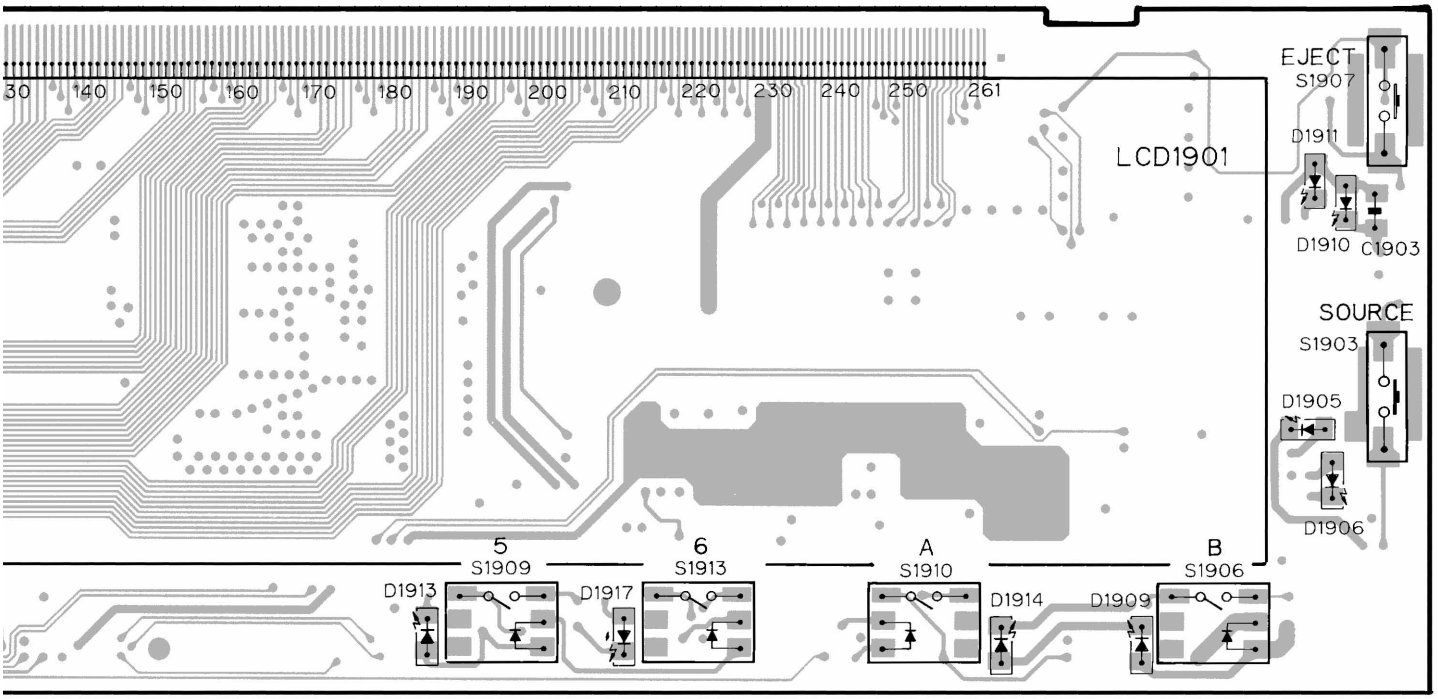
C KEYBOARD UNIT

IC, Q Q1901 IC1905

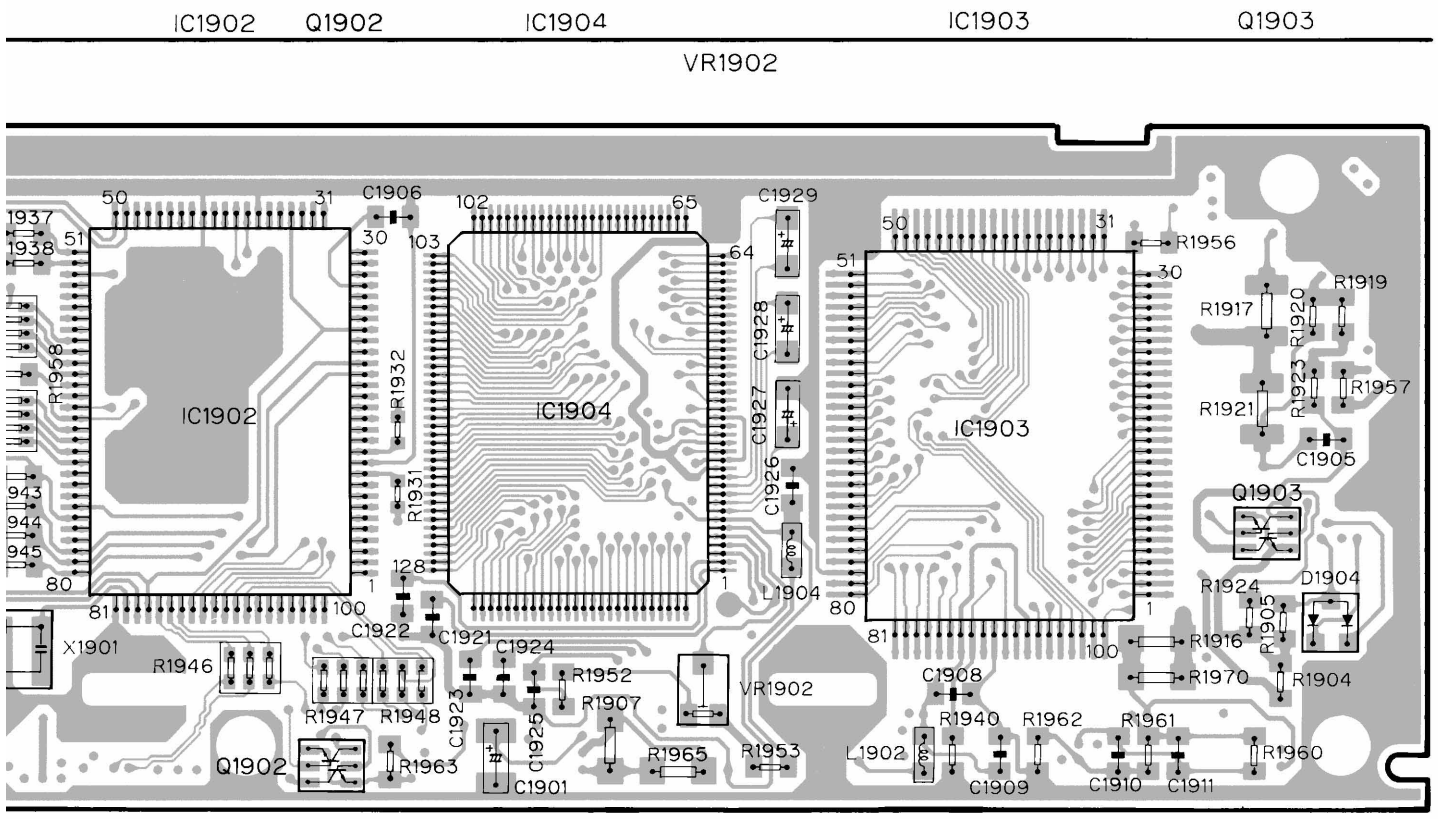
ADJ VR1901



SIDE A


30 140 150 160 170 180 190 200 210 220 230 240 250 261
LCD1901
EJECT
S1907
D1911
D1910
C1903
SOURCE
S1903
D1905
D1906
5
S1909
6
S1913
A
S1910
B
S1906
D1913
D1917
D1914
D1909

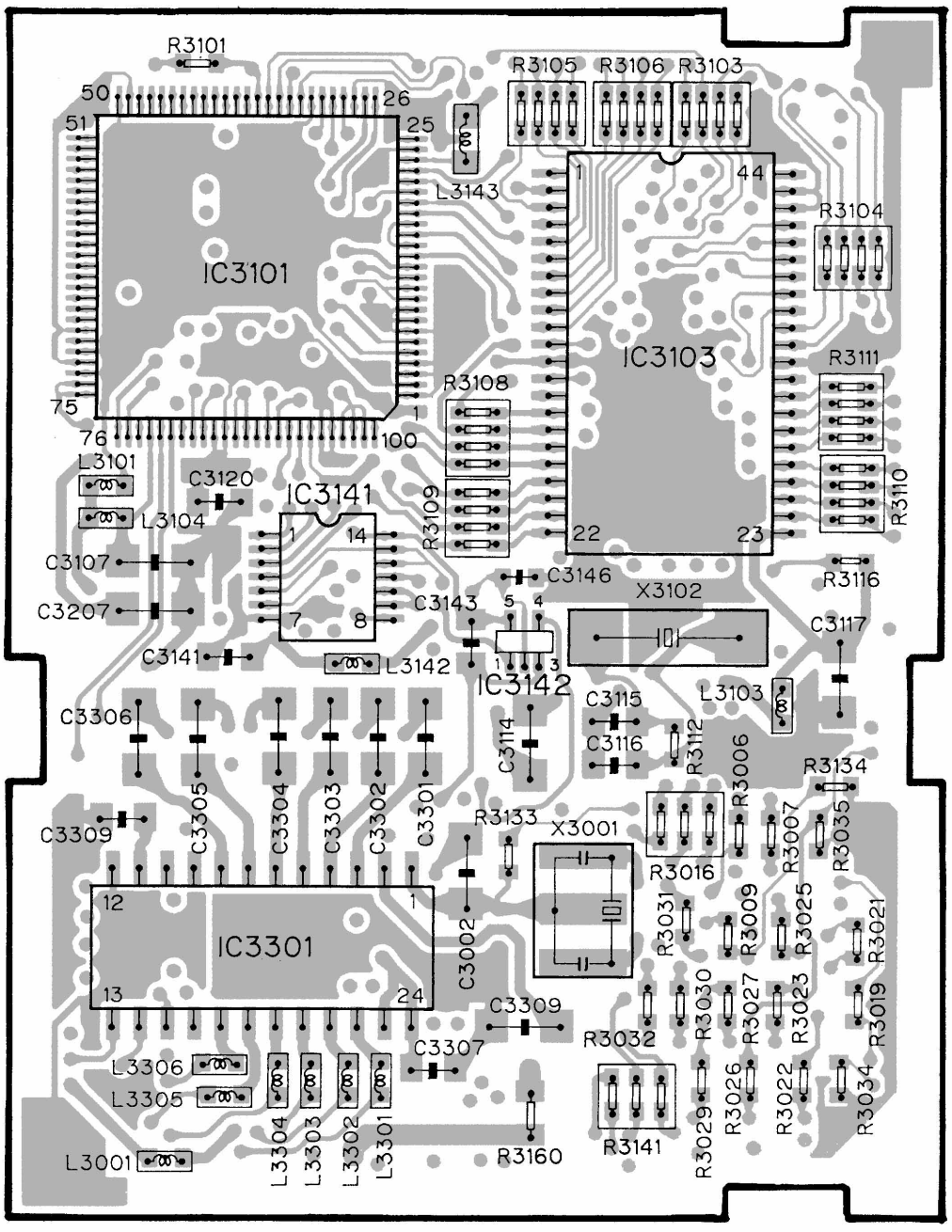
SIDE B


IC1902
Q1902
IC1904
IC1903
Q1903
VR1902
C1906
C1929
C1928
C1927
C1926
L1904
R1956
R1919
R1917
R1920
R1923
R1957
R1921
C1905
Q1903
D1904
R1924
R1916
R1970
R1904
R1906
C1908
R1940
R1962
R1961
R1960
L1902
C1909
C1910
C1911
R1958
R1932
R1931
X1901
R1946
R1947
R1948
C1923
C1922
C1921
C1924
R1952
R1907
C1925
R1965
R1953
Q1902
R1963
C1901

4.5 DSP UNIT

SIDE A

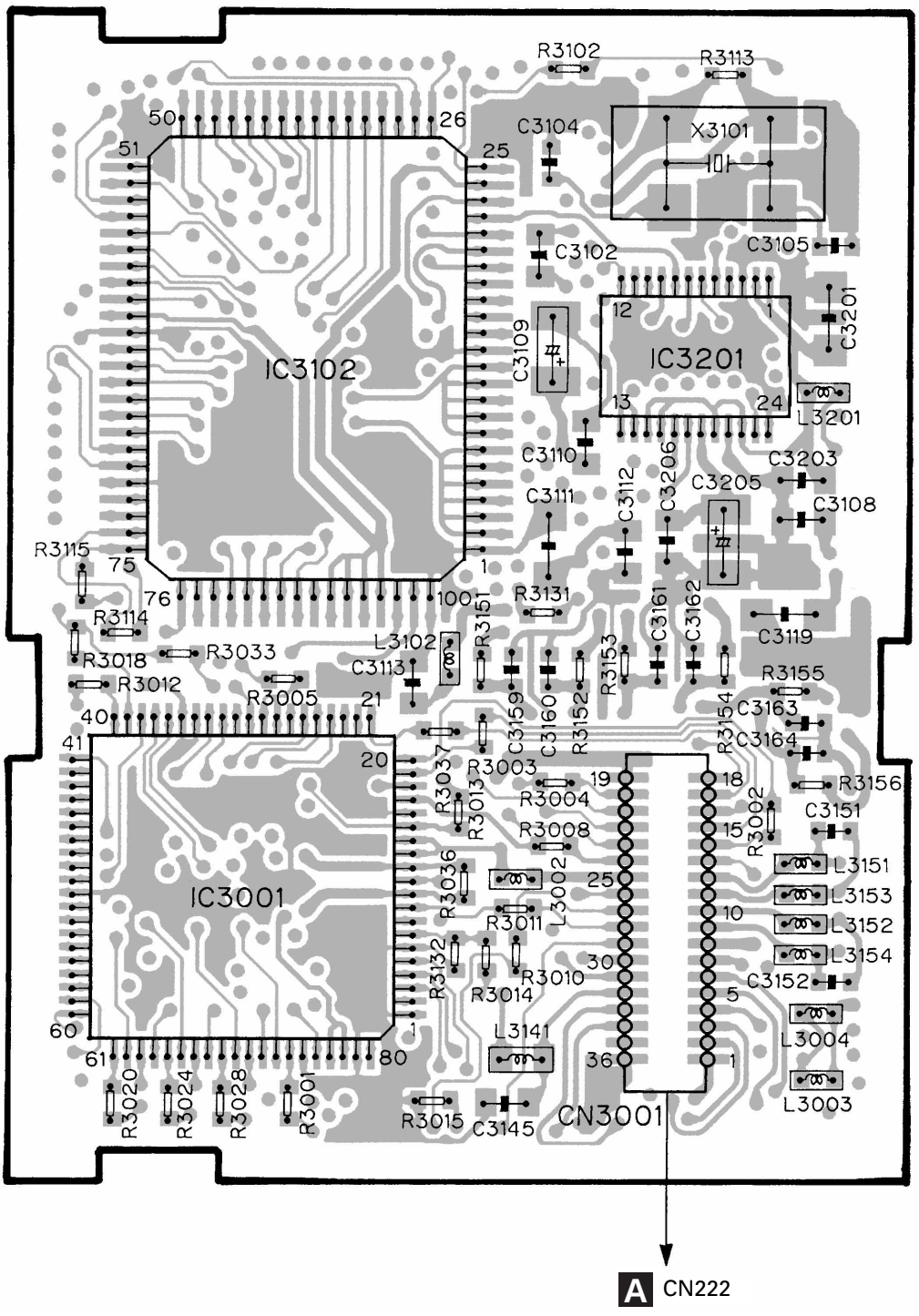
F DSP UNIT



IC
IC3101
IC3103
IC3141
IC3142
IC3301

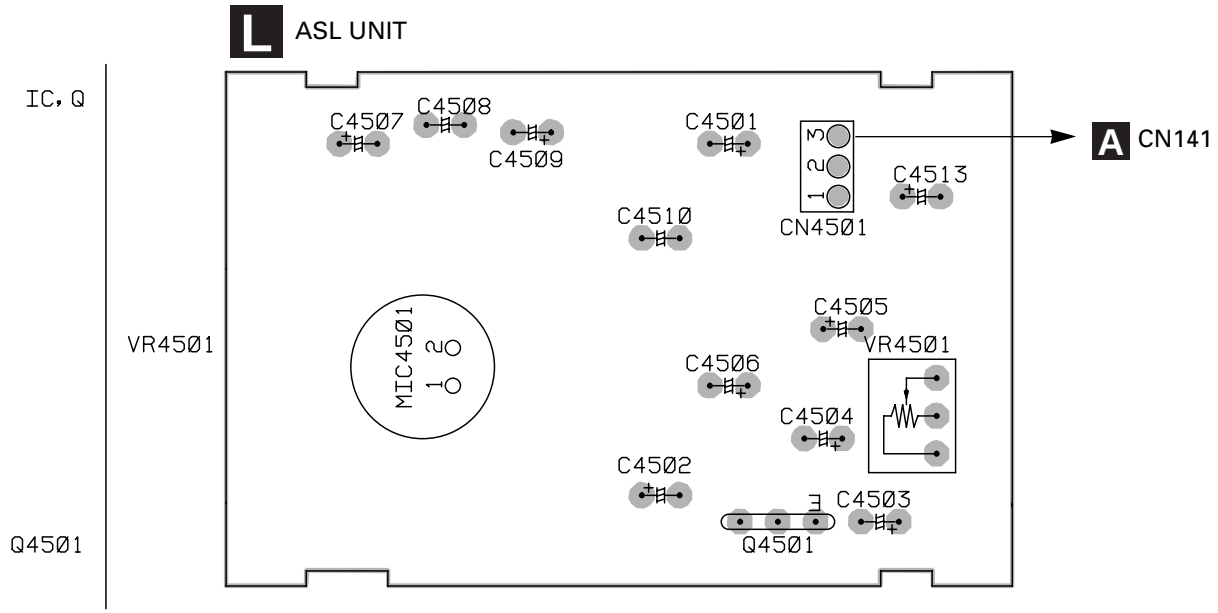
SIDE B

F DSP UNIT

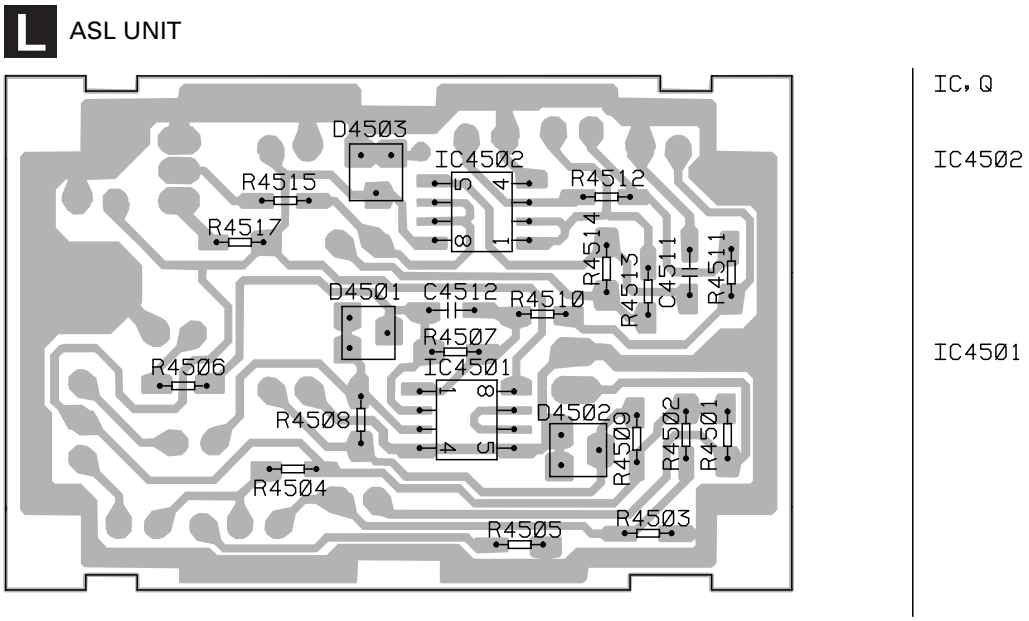


4.6 ASL UNIT

SIDE A

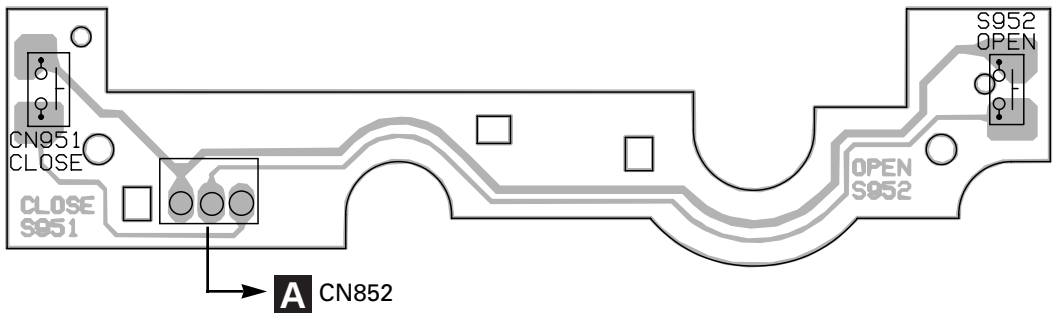


SIDE B



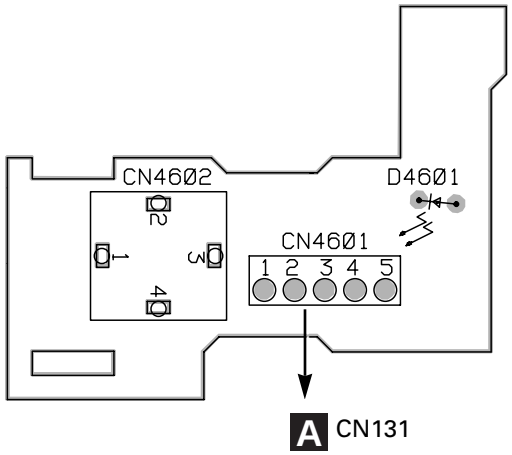
4.7 FLAP SENSE PCB, MICROPHONE JACK UNIT

K FLAP SENSE PCB



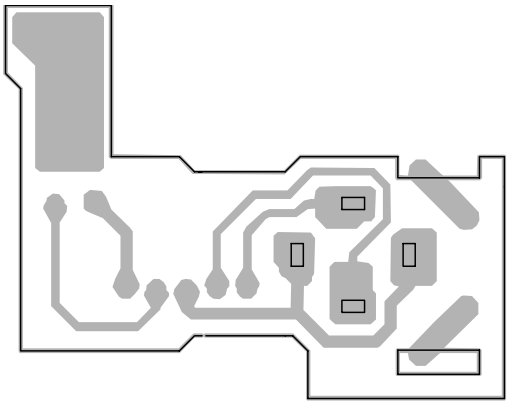
SIDE A

M MICROPHONE JACK UNIT

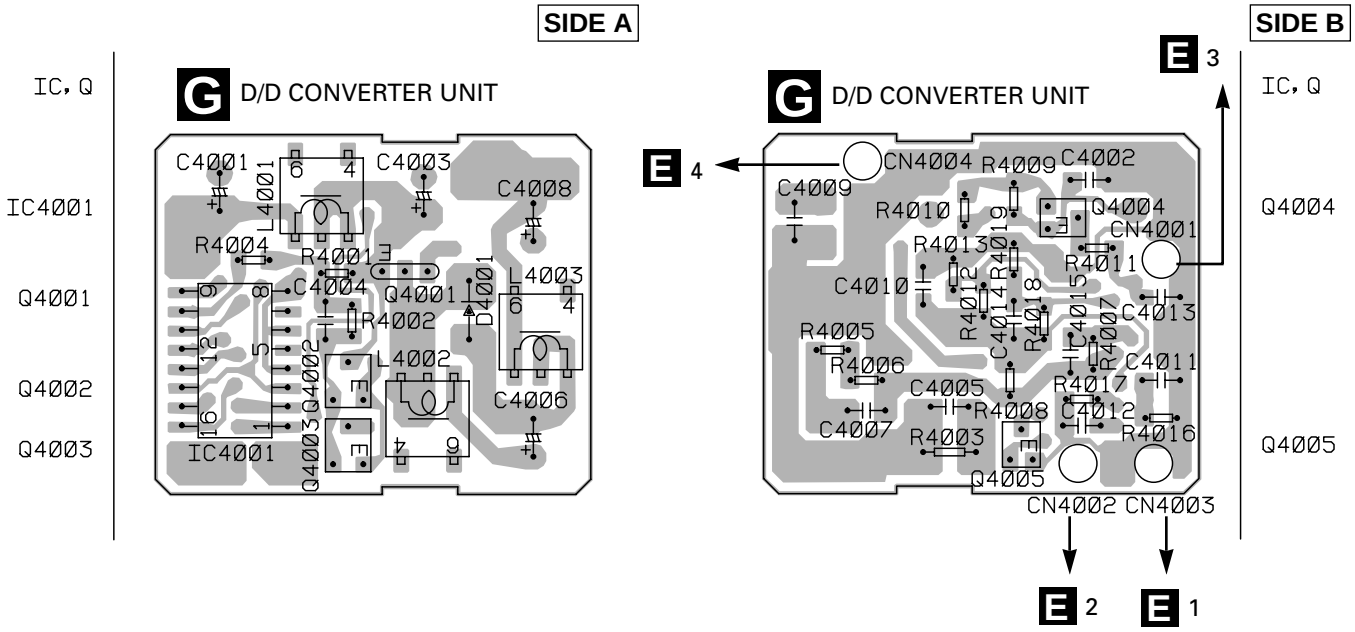


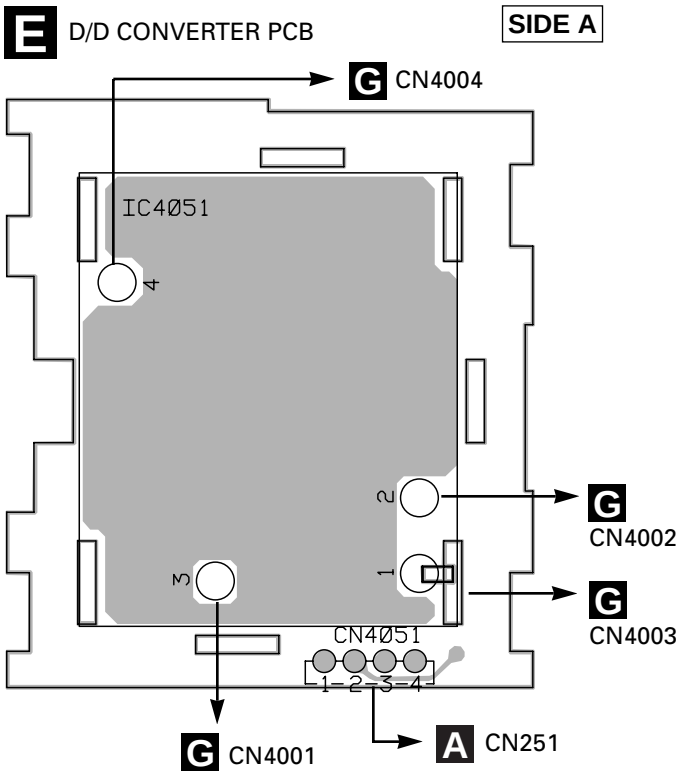
SIDE B

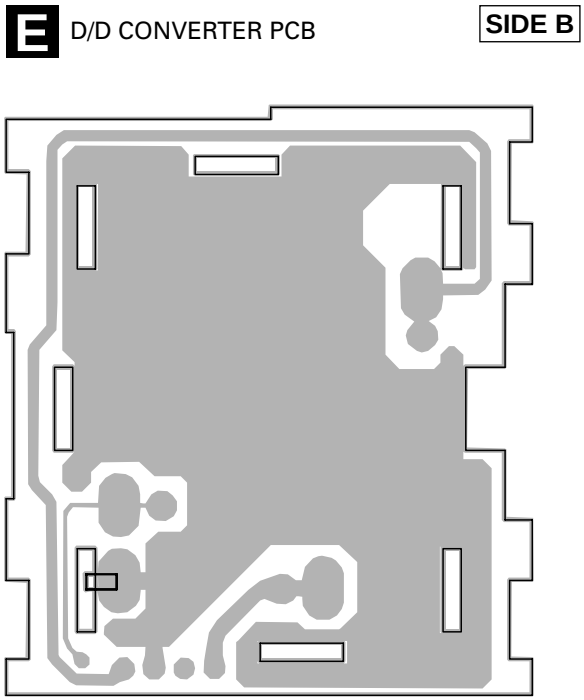
M MICROPHONE JACK UNIT



4.8 D/D CONVERTER UNIT, D/D CONVERTER PCB (DEX-P99R/EW)

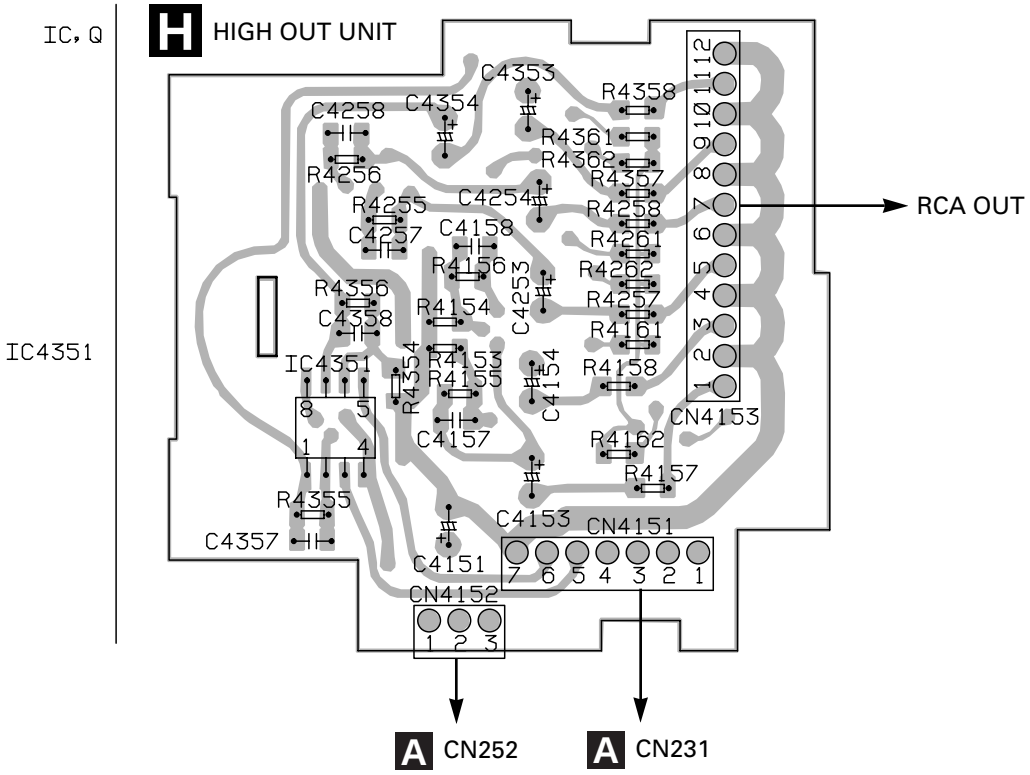




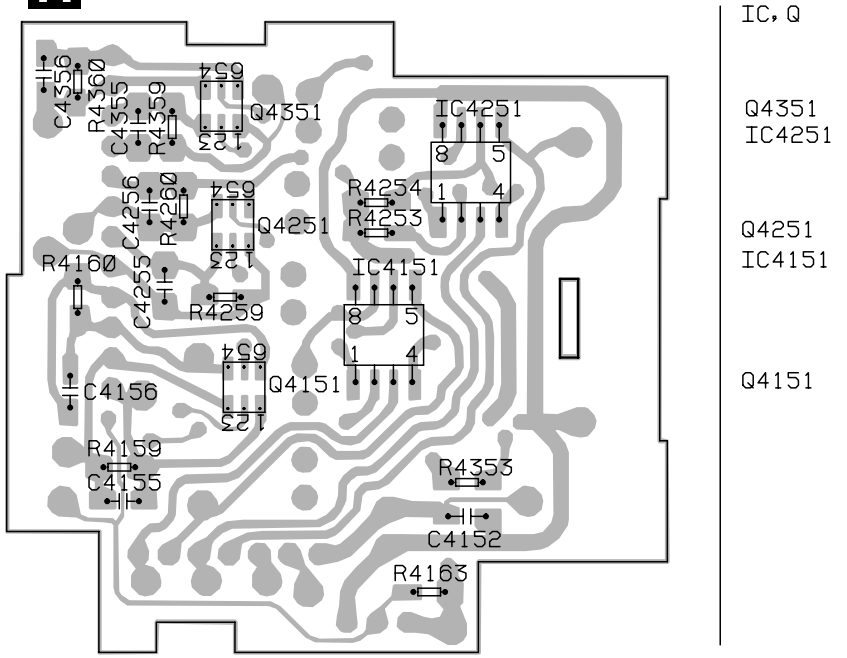


4.9 HIGH OUT UNIT (DEX-P99R/EW)

SIDE A



SIDE B



5. ELECTRICAL PARTS LIST

NOTES:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

B Unit Number : CWE1416
Unit Name : FM/AM Tuner Unit

MISCELLANEOUS

=====Circuit Symbol and No.		===Part Name	Part No.
IC	1	IC	PA4023B
IC	2	IC	PA4024A
Q	1	Transistor	2SC2412K
Q	2	Transistor	DTC124EU
Q	3	FET	3SK263
Q	31	Transistor	2SC2412K
Q	154	Transistor	DTC124EU
Q	165	Transistor	2SC2412K
Q	201	FET	2SK932
Q	202	Transistor	2SC2412K
Q	203	Transistor	DTC124EU
D	4	Diode	1SV250
D	5	Diode	KV1410-F1
D	7	Diode	KV1410-F1
D	8	Diode	KV1410-F1
D	201	Diode	MA157
D	202	Diode	MA157
D	231	Diode	SVC253
L	2	Coil	CTC1108
L	3	Inductor	LCTB2R2K2125
L	4	Coil	CTC1108
L	5	Coil	CTC1107
L	6	Inductor	LCTBR15K1608
L	51	Ferri-Inductor	LAU150K
L	201	Ferri-Inductor	LAU4R7K
L	202	Ferri-Inductor	LAU330K
L	203	Inductor	CTF1287
L	208	Inductor	LAU121K
L	231	Inductor	LCTA3R3J3225
T	31	Coil	CTE1116
T	51	Coil	CTC1136
TC	1		CCL1046
CF	51	Ceramic Filter	CTF1292
CF	52	Ceramic Filter	CTF1292
CF	53	Ceramic Filter	CTF1292
CF	232	Ceramic Filter	CTF1348
X	151	Resonator 918.5Hz	CSS1365
X	231	Crystal Resonator 10.26MHz	CSS1111
VR	154	Semi-fixed 150kΩ(B)	CCP1213
AR	1	(DSP-201M-A11F)	GGC1326

RESISTORS

=====Circuit Symbol and No.		===Part Name	Part No.
R	1		RS1/16S0R0J
R	4		RS1/16S154J
R	5		RS1/16S391J
R	6		RS1/16S223J
R	7		RS1/16S123J
R	8		RS1/16S332J
R	9		RS1/16S473J
R	10		RS1/16S223J
R	11		RS1/16S124J
R	13		RS1/16S563J
R	15		RS1/16S271J
R	16		RS1/16S104J
R	17		RS1/16S332J
R	18		RS1/16S332J
R	31		RS1/16S470J
R	32		RS1/16S822J
R	33		RS1/16S822J
R	34		RS1/16S331J
R	35		RS1/16S331J
R	51		RS1/16S271J
R	52		RS1/16S560J
R	55		RS1/16S102J
R	56		RS1/16S823J
R	61		RS1/16S392J
R	62		RS1/16S393J
R	101		RS1/16S272J
R	102		RS1/16S682J
R	103		RS1/16S333J
R	104		RS1/16S334J
R	105		RS1/16S683J
R	107		RS1/16S222J
R	151		RS1/16S222J
R	152		RS1/16S393J
R	154		RS1/16S104J
R	155		RS1/16S273J
R	156		RS1/16S243J
R	157		RS1/16S203J
R	160		RS1/16S222J
R	161		RS1/16S563J
R	162		RS1/16S105J
R	163		RS1/16S222J
R	202		RS1/16S223J
R	203		RS1/16S225J
R	204		RS1/16S103J
R	206		RS1/16S220J
R	207		RS1/16S101J
R	208		RS1/16S102J
R	209		RS1/16S471J
R	214		RS1/16S822J
R	215		RS1/16S822J
R	217		RS1/16S102J
R	231		RS1/16S272J
R	232		RS1/16S473J
R	237		RS1/16S103J
R	238		RS1/16S104J
R	239		RS1/16S104J
R	240		RS1/16S332J
R	241		RS1/16S202J
R	243		RS1/16S123J
R	244		RS1/16S103J
R	247		RS1/16S123J

CAPACITORS

=====Circuit Symbol and No.		===Part Name	Part No.
C	1		CCSQCH6R0D50
C	2		CCSRCK2R0C50
C	4		CCSRCH820J50
C	6		CCSRCH820J50
C	8		CKSRYB103K25

Circuit Symbol and No.	Part Name	Part No.
C 9		CKSQYB104K16
C 10		CCSRCKR50C50
C 11		CEJA1R0M50
C 13		CKSRYB222K50
C 14		CCSRCH220J50
C 16		CCSRCH8R0D50
C 17		CKSRYB222K50
C 18		CKSRYB103K25
C 19		CKSRYB222K50
C 20		CKSRYB222K50
C 21		CEJA100M16
C 22		CCSRTH9R0D50
C 23		CCSRTH120J50
C 24		CCSRCH471J50
C 25		CKSRYB103K25
C 31		CKSRYB103K25
C 32		CKSQYB472K50
C 33		CCSRCH5R0C50
C 34		CKSQYB104K16
C 36		CCSRRH201J50
C 51		CKSRYB223K25
C 52		CKSRYB103K25
C 54		CCSRCH470J50
C 55		CKSQYB223K25
C 56		CKSQYB104K16
C 57		CKSRYB472K50
C 58		CEJA330M10
C 59		CKSRYB103K25
C 61		CCSRCH270J50
C 62		CKSRYB103K25
C 63		CEJAR15M50
C 101		CEJANP100M10
C 102		CKSRYB182K50
C 103		CKSRYB682K25
C 104		CEJA2R2M50
C 105		CKSRYB103K25
C 106		CCSRCH151J50
C 107		CKSRYB103K25
C 151		CKSRYB472K50
C 152		CKSQYB104K16
C 153		CEJA3R3M50
C 154		CKSQYB104K16
C 157		CEJA3R3M50
C 158		CKSYB474K16
C 159		CEJA220M6R3
C 160		CKSQYB104K16
C 161		CKSQYB104K16
C 162		CEJA3R3M50
C 163		CKSRYB102K50
C 170		CCSRCH100D50
C 201		CCSRCH471J50
C 202		CCSRCH100D50
C 203		CKSRYB332K50
C 204		CKSQYB473K16
C 205		CKSQYB473K16
C 206		CKSQYB104K16
C 207		CCSRCH560J50
C 209		CKSQYB104K16
C 211		CCSRCH101J50
C 212		CEJA470M6R3
C 213		CKSRYB103K25
C 216		CCSRCH101J50
C 217		CEJA1R5M50
C 219		CCSRCH471J50
C 220		CKSRYB103K25
C 230		CKSRYB103K25
C 231		CCSRCH330J50
C 232		CCSRCH150J50
C 233		CKSQYB104K16
C 234		CEJA330M10
C 235		CKSRYB332K50
C 236		CKSQYB473K16
C 237		CCSRCH120J50
C 239		CKSRYB472K50
C 240		CEJAR47M50
C 241		CKSQYB104K16
C 242		CEJAR47M50
C 243		CEJAR33M50
C 244		CKSQYB473K16
C 245		CKSRYB123K25
C 246		CKSQYB473K16
C 250		CCSRCH471J50

D Unit Number : CWX2166
Unit Name : Control Unit

MISCELLANEOUS

IC	101	IC	UPC2572GS
IC	201	IC	UPD63702AGF
IC	301	IC	BA6797FM
IC	502	IC	LC89170M
IC	702	IC	BA05SFP
IC	801	IC	LB1930M
Q	101	Transistor	2SD1664
Q	102	Transistor	UMD2N
D	701	Diode	1SR154-400

RESISTORS

R	101	RS1/8S100J
R	102	RS1/8S120J
R	104	RS1/16S822J
R	105	RS1/16S682J
R	106	RS1/16S183J
R	107	RS1/16S822J
R	108	RS1/16S333J
R	109	RS1/16S683J
R	110	RS1/16S134J
R	111	RS1/16S273J
R	112	RS1/16S222J
R	113	RS1/16S103J
R	114	RS1/16S103J
R	115	RS1/16S102J
R	116	RS1/16S163J
R	117	RS1/16S163J
R	120	RS1/16S101J
R	121	RS1/16S101J
R	125	RS1/16S102J
R	201	RS1/16S104J
R	202	RS1/16S473J
R	206	RS1/16S101J
R	207	RS1/16S0R0J
R	208	RS1/16S0R0J
R	301	RS1/16S303J
R	302	RS1/16S203J
R	303	RS1/16S303J
R	304	RS1/16S203J
R	305	RS1/16S103J
R	306	RS1/16S203J
R	307	RS1/16S103J
R	308	RS1/16S103J
R	310	RS1/16S102J
R	311	RS1/16S102J
R	501	RS1/16S0R0J
R	503	RS1/16S0R0J
R	701	RS1/16S221J
R	702	RS1/16S221J
R	703	RS1/16S221J
R	705	RS1/16S102J

=====Circuit Symbol and No.		===Part Name	Part No.
R	706		RS1/16S681J
R	707		RS1/16S681J
R	708		RS1/16S681J
R	709		RS1/16S681J
R	711		RS1/16S471J
R	712		RS1/16S471J
R	713		RS1/16S471J
R	714		RS1/16S102J
R	717		RS1/16S0R0J
R	718		RS1/16S102J
R	901		RS1/16S302J
CAPACITORS			
C	101		CEVL101M6R3
C	102		CKSQYB104K16
C	103		CEVL470M6R3
C	104		CKSQYB334K16
C	105		CCSRCH330J50
C	106		CKSRYB103K25
C	107		CEVL4R7M35
C	108		CKSRYB273K25
C	109		CCSRCH101J50
C	110		CKSQYB104K16
C	111		CKSRYB332K50
C	112		CKSRYB473K16
C	113		CKSRYB103K25
C	114		CKSRYB391K50
C	115		CCSRCH121J50
C	116		CKSRYB682K25
C	117		CKSRYB333K16
C	118		CKSQYB334K16
C	119		CKSQYB334K16
C	120		CKSQYB334K16
C	121		CKSQYB334K16
C	122		CKSQYB104K16
C	123		CKSRYB472K50
C	124		CKSQYB104K16
C	125		CCSRCH6R0D50
C	126		CKSRYB153K25
C	127		CCSRCH102J25
C	201		CKSQYB334K16
C	202		CKSQYB104K16
C	203		CKSQYB104K16
C	204		CKSRYB471K50
C	303		CEVL470M16
C	305		CKSRYB103K25
C	306		CKSRYB103K25
C	309		CKSYB475K10
C	601		CEV101M6R3
C	602		CKSQYB104K16
C	701		CEV100M25
C	702		CKSQYB334K16
C	703	22µF/6.3V	CCH1300
C	704		CEVL101M6R3
C	901		CKSRYB221K50

A Unit Number : CWM5696(DEH-P945R/EW)
Unit Name : Tuner Amp Unit

MISCELLANEOUS

IC	101	IC	CA0008AM
IC	102	IC	TA2050S
IC	171	IC	BA3131FS
IC	301	IC	TDA7386
IC	401	IC	PM2007A
IC	551	IC	PMW001B
IC	552	IC	TA75S393F
IC	601	IC	PD4905A
IC	651	IC	PD4931A
IC	671	IC	PD0236AM

=====Circuit Symbol and No.		===Part Name	Part No.
IC	851	IC	BA6288FS
IC	871	IC	NJM78M05FA
IC	941	IC	PA2024A
IC	971	IC	S-80730ANDT
Q	101	Transistor	2SA1162
Q	102	Transistor	UN2212
Q	131	Transistor	2SC2712
Q	132	Transistor	IMD2A
Q	151	Transistor	2SD1757K
Q	152	Transistor	2SD1757K
Q	153	Transistor	IMH3A
Q	154	Transistor	UN2111
Q	171	Transistor	DTC314TK
Q	172	Transistor	DTC314TK
Q	231	Transistor	FMG13
Q	232	Transistor	FMG13
Q	233	Transistor	FMG13
Q	261	Transistor	IMD2A
Q	301	Transistor	UN2212
Q	302	Transistor	UN2212
Q	401	Transistor	2SC2712
Q	402	Transistor	2SC2712
Q	403	Transistor	IMD2A
Q	551	Transistor	DTC143TK
Q	601	Transistor	UN2111
Q	602	Transistor	UN2211
Q	651	Transistor	UN2112
Q	681	Transistor	2SA1162
Q	682	Transistor	UN2212
Q	683	Transistor	2SC2712
Q	684	Transistor	2SC2712
Q	685	Transistor	2SC2712
Q	802	Transistor	2SC2712
Q	803	Transistor	UN2211
Q	804	Transistor	2SD1760F5
Q	805	Transistor	UN2111
Q	806	Transistor	2SB1238
Q	807	Transistor	2SB1238
Q	808	Transistor	DTC143EK
Q	810	Transistor	2SC2712
Q	811	Transistor	2SC2712
Q	812	Transistor	DTA144EK
Q	851	Transistor	2SD1760F5
Q	852	Transistor	UN2111
Q	853	Transistor	UN2212
Q	871	Transistor	2SB1238
Q	872	Transistor	DTC123EK
Q	911	Transistor	2SD1760F5
Q	913	Transistor	IMD2A
Q	921	Transistor	2SB1243
Q	922	Transistor	UN2212
Q	931	Transistor	2SB1243
Q	932	Transistor	UN2212
Q	951	Transistor	UN2211
Q	952	Transistor	IMX1
Q	961	Transistor	2SA1162
Q	971	Transistor	2SC2712
Q	991	Transistor	IMD2A
Q	992	Transistor	2SD2396
D	131	Diode	MA3039(L)
D	231	Diode	MA152WA
D	232	Diode	MA152WA
D	233	Diode	MA152WA
D	261	Diode	MA152WK
D	262	Diode	MA152WK
D	263	Diode	MA152WK
D	401	Diode	MA152WK
D	402	Diode	MA152WK
D	551	Diode	MA3047(M)
D	803	Diode	MA3062(M)

=====Circuit Symbol and No.		===Part Name	Part No.
D	804	Diode	DA204K
D	805	Diode	DA204K
D	806	Diode	DA204K
D	807	Diode	DA204K
D	808	Diode	MA3062(M)
D	809	Diode	DA204K
D	810	Diode	ERA15-02VH
D	851	Diode	MA3075(H)
D	852	Diode	1SS133
D	853	Diode	1SS133
D	871	Diode	MA152WK
D	901	Diode	ERA15-02VH
D	902	Diode	ERA15-02VH
D	911	Diode	HZS6L(B1)
D	912	Diode	ERA15-02VH
D	921	Diode	ERA15-02VH
D	922	Diode	ERA15-02VH
D	931	Diode	ERA15-02VH
D	932	Diode	ERA15-02VH
D	951	Diode	ERA15-02VH
D	952	Diode	HZS7L(C3)
D	953	Diode	HZS7L(A1)
D	961	Diode	MA152WK
D	971	Diode	MA152WK
D	991	Diode	HZS9L(B1)
L	101	Inductor	LAU3R3K
L	141	Inductor	CTF1420
L	221	Inductor	CTF1295
L	222	Inductor	LCTB2R2K2125
L	223	Ferri-Inductor	LAU1R0M
L	401	Ferri-Inductor	LAU2R2K
L	403	Inductor	LAU2R2K
L	551	Inductor	CTF1295
L	601	High Loss Inductor	CTF1410
L	602	High Loss Inductor	CTF1410
L	603	High Loss Inductor	CTF1410
L	651	High Loss Inductor	CTF1410
L	652	Inductor	CTF1295
L	671	Inductor	CTF1295
L	801	High Loss Inductor	CTF1410
L	961	Ferri-Inductor	LAU2R2K
TH	651	Thermistor	CCX1037
X	401	Crystal Resonator 7.200MHz	CSS1379
X	501	Crystal Resonator 4.332MHz	CSS1056
X	601	Resonator 12.58291MHz	CSS1402
X	651	Resonator 4.19MHz	CSS1436
S	601	Slide Switch(PRO/STD)	CSH1048
IL	801	Lamp 14V40mA	CEL1359
VR	551	Semi-fixed 22kΩ(B)	CCP1129
		DSP Unit	CWX2214
		FM/AM Tuner Unit	CWE1416
BZ	601	Buzzer	CPV1012
FU	801	IC Protector 0.4A	ICP-N10

RESISTORS

R	101		RS1/10S620J
R	102		RS1/10S101J
R	103		RS1/10S101J
R	104		RS1/10S222J
R	105		RS1/10S103J
R	106		RS1/10S102J
R	107		RS1/10S102J
R	108		RS1/10S473J
R	109		RS1/10S473J
R	110		RS1/10S223J
R	111		RS1/10S181J
R	112		RS1/10S102J
R	113		RS1/10S102J
R	114		RS1/10S181J
R	115		RS1/10S223J
R	116		RS1/10S332J
R	117		RS1/10S562J
R	118		RS1/10S472J
R	131		RS1/10S103J
R	132		RS1/10S223J
R	133		RS1/10S473J
R	134		RS1/10S104J
R	135		RS1/10S222J
R	136		RS1/10S561J
R	151		RS1/10S272J
R	152		RS1/10S272J
R	155		RS1/10S222J
R	156		RS1/10S222J
R	157		RS1/10S224J
R	158		RS1/10S224J
R	159		RS1/10S223J
R	160		RS1/10S223J
R	171		RS1/10S393J
R	172		RS1/10S393J
R	173		RS1/10S752J
R	174		RS1/10S752J
R	175		RS1/10S222J
R	176		RS1/10S222J
R	177		RS1/10S473J
R	178		RS1/10S473J
R	179		RS1/10S513J
R	180		RS1/10S513J
R	181		RS1/10S563J
R	182		RS1/10S563J
R	184		RS1/10S103J
R	185		RS1/10S224J
R	186		RS1/10S102J
R	187		RS1/10S102J
R	189		RS1/10S104J
R	190		RS1/10S104J
R	201		RS1/10S472J
R	202		RS1/10S472J
R	203		RS1/10S472J
R	204		RS1/10S472J
R	205		RS1/10S223J
R	206		RS1/10S223J
R	207		RS1/10S331J
R	208		RS1/10S331J
R	209		RS1/10S331J
R	210		RS1/10S331J
R	227	(RN1/10SE4702D)	GGC1316
R	228	(RN1/10SE4702D)	GGC1316
R	229		RS1/16S102J
R	231		RS1/10S821J
R	232		RS1/10S821J
R	233		RS1/10S821J
R	234		RS1/10S821J
R	235		RS1/10S821J
R	236		RS1/10S821J
R	237		RS1/10S223J
R	238		RS1/10S223J
R	239		RS1/10S223J
R	240		RS1/10S223J
R	241		RS1/10S223J
R	242		RS1/10S223J
R	261		RS1/10S223J
R	262		RS1/10S102J
R	301		RS1/10S103J
R	302		RS1/10S331J
R	303		RS1/10S103J
R	304		RS1/10S103J
R	402		RS1/10S103J
R	403		RS1/10S0R0J
R	404		RS1/10S472J
R	405		RS1/10S222J

=====Circuit Symbol and No.	===Part Name	Part No.
R 406		RS1/10S682J
R 407		RS1/10S102J
R 408		RS1/10S472J
R 409		RS1/10S682J
R 410		RS1/10S561J
R 411		RS1/10S103J
R 412		RS1/10S222J
R 413		RS1/10S152J
R 414		RS1/10S392J
R 415		RS1/10S392J
R 416		RS1/10S272J
R 417		RS1/10S0R0J
R 418		RS1/10S222J
R 419		RS1/10S222J
R 420		RS1/10S562J
R 421		RS1/10S222J
R 422		RS1/10S102J
R 424		RS1/10S222J
R 425		RS1/10S105J
R 426		RS1/10S473J
R 427		RS1/10S562J
R 428		RS1/10S472J
R 429		RS1/10S224J
R 430		RS1/10S0R0J
R 432		RS1/10S681J
R 455		RS1/10S0R0J
R 502		RS1/10S681J
R 504		RS1/10S105J
R 507		RS1/10S222J
R 552		RS1/10S102J
R 553		RS1/10S102J
R 554		RS1/10S102J
R 555		RS1/10S102J
R 556		RS1/10S102J
R 557		RS1/10S0R0J
R 558		RS1/10S0R0J
R 559		RS1/10S222J
R 560		RS1/10S222J
R 561		RS1/10S684J
R 562		RS1/10S681J
R 563		RS1/10S562J
R 564		RS1/10S102J
R 565		RS1/10S0R0J
R 566		RD1/4PU151J
R 567		RS1/10S562J
R 568		RS1/10S333J
R 569		RS1/10S103J
R 570		RS1/10S102J
R 601		RS1/10S473J
R 602		RS1/10S473J
R 603		RS1/10S223J
R 607		RS1/10S473J
R 608		RS1/10S473J
R 609		RS1/16S473J
R 610		RS1/10S102J
R 611		RS1/10S473J
R 612		RS1/10S473J
R 613		RS1/10S681J
R 614		RS1/10S473J
R 617		RS1/10S221J
R 618		RS1/10S221J
R 619		RS1/10S221J
R 620		RS1/10S221J
R 621		RS1/10S221J
R 622		RS1/10S682J
R 623		RS1/10S682J
R 624		RS1/10S682J
R 625		RS1/10S682J
R 626		RS1/10S473J
R 627		RS1/10S393J

=====Circuit Symbol and No.	===Part Name	Part No.
R 628		RS1/16S473J
R 631		RS1/10S102J
R 632		RS1/10S202J
R 636		RA3C681J
R 637		RS1/10S473J
R 638		RS1/10S473J
R 640		RS1/10S473J
R 641		RS1/10S473J
R 642		RS1/10S102J
R 644		RS1/10S473J
R 645		RS1/10S473J
R 646		RS1/10S473J
R 647		RS1/10S473J
R 648		RS1/10S473J
R 649		RS1/10S221J
R 650		RS1/10S682J
R 655		RS1/10S222J
R 656		RS1/10S222J
R 657		RS1/10S473J
R 658		RS1/10S473J
R 659	(RN1/10SE9102D)	GGC1317
R 662		RS1/10S222J
R 663		RS1/10S473J
R 664		RS1/10S103J
R 665	(RN1/10SE2402D)	GGC1318
R 667		RS1/10S0R0J
R 671		RS1/10S681J
R 672		RS1/10S102J
R 673		RS1/10S102J
R 674		RS1/10S102J
R 675		RS1/10S681J
R 676		RS1/10S681J
R 677		RS1/10S681J
R 678		RS1/10S681J
R 681		RS1/8S102J
R 682		RS1/8S102J
R 683		RS1/8S102J
R 685		RS1/10S103J
R 686		RS1/10S103J
R 687		RS1/10S223J
R 688		RS1/10S223J
R 689		RS1/10S223J
R 690		RS1/10S272J
R 691		RS1/10S223J
R 692		RS1/10S272J
R 693		RS1/10S223J
R 694		RS1/10S272J
R 695		RS1/10S473J
R 696		RS1/10S473J
R 697		RS1/10S473J
R 698		RS1/8S331J
R 700		RS1/10S274J
R 801		RD1/4PU102J
R 802		RS1/8S103J
R 803		RS1/10S224J
R 804		RS1/10S222J
R 805		RD1/4PU102J
R 806		RS1/10S104J
R 807		RS1/10S222J
R 809		RS1/10S1R0J
R 810		RS1/10S103J
R 811		RS1/10S104J
R 815		RS1/10S222J
R 816		RS1/8S222J
R 817		RS1/10S222J
R 818		RS1/8S222J
R 819		RS1/8S103J
R 820		RS2PMF330J
R 821		RS1/8S472J
R 830		RS1/10S102J

=====Circuit Symbol and No.		===Part Name	Part No.
R	851		RD1/4PU561J
R	852		RS1/10S102J
R	853		RS1/10S102J
R	854		RS1/10S102J
R	855		RS1/10S102J
R	856		RS1/10S473J
R	857		RS1/10S473J
R	859		RS1/10S0R0J
R	871		RS1/10S102J
R	872		RD1/4PU102J
R	873		RS1/10S473J
R	911		RS1/8S0R0J
R	912		RS1/10S392J
R	913		RS1/10S752J
R	921		RS1/10S472J
R	922		RD1/4PU221J
R	923		RD1/4PU221J
R	931		RS1/10S472J
R	932		RD1/4PU221J
R	933		RD1/4PU221J
R	941		RS1/10S102J
R	942		RS1/10S102J
R	943		RS1/10S472J
R	951		RS1/10S103J
R	952		RS1/10S103J
R	953		RS1/10S473J
R	954		RS1/10S472J
R	955		RS1/10S473J
R	956		RS1/10S103J
R	961		RS1/8S153J
R	962		RS1/10S472J
R	963		RS1/10S472J
R	964		RS1/10S102J
R	971		RS1/10S822J
R	973		RS1/10S102J
R	974		RS1/10S473J
R	975		RS1/10S472J
R	991		RD1/4PU221J
R	992		RS1/10S221J
R	993		RS1/10S472J
R	994		RS1/10S222J
CAPACITORS			
C	101		CKSQYB104K16
C	102		CKSQYB104K16
C	103		CEJA1R0M50
C	104		CEJA1R0M50
C	105		CEJA100M16
C	106		CEJA100M16
C	107		CEJA1R0M50
C	108		CEJA1R0M50
C	109		CKSQYB102K50
C	131		CKSQYB681K50
C	132		CEJA101M10
C	141		CCSQCH101J50
C	151		CKSQYB223K50
C	152		CKSQYB223K50
C	153		CEV1R0M50
C	154		CEV1R0M50
C	171		CEJA1R0M50
C	172		CEJA1R0M50
C	173		CEV4R7M25
C	174		CEV4R7M25
C	175		CCSQCH820J50
C	176		CCSQCH820J50
C	177		CCSQCH390J50
C	178		CCSQCH390J50
C	179		CCSQCH390J50

=====Circuit Symbol and No.		===Part Name	Part No.
C	180		CCSQCH390J50
C	182		CEJA1R0M50
C	183		CEJA220M6R3
C	184		CEJA101M10
C	185		CEJA100M16
C	186		CKSQYB223K50
C	201		CEJA4R7M35
C	202		CEJA4R7M35
C	203		CEJA100M16
C	204		CEJA100M16
C	205		CKSQYB104K16
C	206		CKSQYB104K16
C	207		CEJA100M16
C	208		CEJA100M16
C	217		CCSQCH221J50
C	218		CCSQCH101J50
C	227		CKSQYB103K50
C	229		CEJANP100M10
C	230		CKSYB475K10
C	231		CEJA4R7M35
C	232		CEJA4R7M35
C	233		CEJA4R7M35
C	234		CEJA4R7M35
C	235		CEJA100M16
C	236		CEJA100M16
C	237		CCSQCH221J50
C	238		CCSQCH221J50
C	239		CCSQCH221J50
C	240		CCSQCH221J50
C	241		CCSQCH221J50
C	242		CCSQCH221J50
C	301		CKSYB224K16
C	302		CKSYB224K16
C	303		CKSYB224K16
C	304		CKSYB224K16
C	305		CKSYB105K16
C	306		CEHAR100M16
C	308	3300µF/16V	CCH1125
C	309		CEHAR010M50
C	310		CEHAR330M10
C	351		CCSQCH221J50
C	352		CCSQCH101J50
C	353		CKSYB475K10
C	401		CKSQYB103K50
C	402		CKSQYB103K50
C	403		CKSQYB103K50
C	404		CKSQYB103K50
C	405		CEV220M10
C	406		CKSQYB103K50
C	407		CEV220M10
C	408		CKSQYB103K50
C	409		CKSQYB103K50
C	410		CEV220M6R3
C	411		CKSQYB103K50
C	413	4.7µF/16V	CCH1250
C	414		CKSQYB103K50
C	415		CKSQYB103K50
C	416		CKLSR473K16
C	417	4.7µF/16V	CCH1250
C	418		CKSQYB103K50
C	419		CEVR47M50
C	420		CCSQCH150J50
C	421		CCSQCH150J50
C	422		CKSQYB103K50
C	423		CKSQYB103K50
C	424		CCSQCH101J50
C	425		CKSQYB473K16
C	426		CEV220M6R3
C	427		CKSQYB103K50
C	428		CKSQYB103K50

=====Circuit Symbol and No.		===Part Name	Part No.
C	429		CKSQYB471K50
C	430		CKSQYB103K50
C	431		CKSQYB223K50
C	433		CKSQYB103K50
C	434		CKSQYB223K50
C	435		CKSQYB223K50
C	503		CCSQCH270J50
C	504		CCSQCH270J50
C	554		CKSQYB103K50
C	555		CKSQYB103K50
C	556		CKSQYB472K50
C	557		CKSQYB104K16
C	558		CKSQYB105K10
C	559		CKSQYB104K16
C	560		CKSQYB222K50
C	561		CCSQCH101J50
C	562		CEJA100M16
C	563		CKSQYB223K50
C	564		CKSQYB104K16
C	565		CKSQYB223K50
C	601		CCSQCH200J50
C	602		CCSQCH200J50
C	604		CEJA101M10
C	606		CCSQCH101J50
C	608		CCSQCH101J50
C	609		CEJA100M16
C	610		CKSQYB104K16
C	615		CCSQCH101J50
C	616		CCSQCH101J50
C	617		CCSQCH101J50
C	618		CCSQCH101J50
C	619		CCSQCH101J50
C	620		CCSRCH101J50
C	651		CKSYB475K10
C	653		CKSQYB102K50
C	671		CKSQYB103K50
C	672		CEJA100M16
C	683		CKSQYB103K50
C	684		CKSQYB103K50
C	685		CKSQYB103K50
C	686		CKSQYB473K16
C	803		CKSQYB103K50
C	806		CKSYB475K10
C	807		CCSQCH101J50
C	808		CEJA101M16
C	809		CCSQCH101J50
C	811		CCSCH101J50
C	851		CKSQYB103K50
C	852		CKSYB475K10
C	853		CKSQYB102K50
C	854		CCSQCH101J50
C	855		CCSQCH101J50
C	856		CKSQYB102K50
C	871	470µF/16V	CCH1183
C	872		CEJA100M16
C	873		CKSQYB103K50
C	874		CKSQYB102K50
C	876		CASA4R7M10
C	911	1500µF/16V	CCH1312
C	912		CKSQYB472K50
C	913		CKSQYB103K50
C	914		CASA470M10
C	921		CKSQYB103K50
C	941		CKSQYB102K50
C	942	330µF/10V	CCH1181
C	943		CEJA470M10
C	944		CEJA1R0M50
C	945		CEJA101M10
C	946		CEJA470M10
C	947		CKSQYB102K50

=====Circuit Symbol and No.		===Part Name	Part No.
C	951		CKSQYB105K10
C	952		CCSQCH101J50
C	971		CEJA2R2M50
C	972		CKSQYB102K50
C	973		CKSQYB104K16
C	991		CKSQYB473K16
C	992		CKSQYB102K50
C	993		CEJA101M10

A Unit Number : CWM5695(DEX-P99R/EW)
Unit Name : Tuner Amp Unit

MISCELLANEOUS

IC	101	IC	CA0008AM
IC	102	IC	TA2050S
IC	171	IC	BA3131FS
IC	401	IC	PM2007A
IC	551	IC	PMW001B
IC	552	IC	TA75S393F
IC	601	IC	PD4905A
IC	651	IC	PD4931A
IC	671	IC	PD0236AM
IC	851	IC	BA6288FS
IC	871	IC	NJM78M05FA
IC	941	IC	PA2024A
IC	971	IC	S-80730ANDT
Q	101	Transistor	2SA1162
Q	102	Transistor	UN2212
Q	131	Transistor	2SC2712
Q	132	Transistor	IMD2A
Q	151	Transistor	2SD1757K
Q	152	Transistor	2SD1757K
Q	153	Transistor	IMH3A
Q	154	Transistor	UN2111
Q	171	Transistor	DTC314TK
Q	172	Transistor	DTC314TK
Q	231	Transistor	FMG13
Q	232	Transistor	FMG13
Q	233	Transistor	FMG13
Q	251	Transistor	DTA143EK
Q	252	Transistor	UN2211
Q	253	Transistor	IMD2A
Q	261	Transistor	IMD2A
Q	302	Transistor	UN2212
Q	401	Transistor	2SC2712
Q	402	Transistor	2SC2712
Q	403	Transistor	IMD2A
Q	551	Transistor	DTC143TK
Q	601	Transistor	UN2111
Q	602	Transistor	UN2211
Q	651	Transistor	UN2112
Q	681	Transistor	2SA1162
Q	682	Transistor	UN2212
Q	683	Transistor	2SC2712
Q	684	Transistor	2SC2712
Q	685	Transistor	2SC2712
Q	802	Transistor	2SC2712
Q	803	Transistor	UN2211
Q	804	Transistor	2SD1760F5
Q	805	Transistor	UN2111
Q	806	Transistor	2SB1238
Q	807	Transistor	2SB1238
Q	808	Transistor	DTC143EK
Q	810	Transistor	2SC2712
Q	811	Transistor	2SC2712
Q	812	Transistor	DTA144EK
Q	851	Transistor	2SD1760F5
Q	852	Transistor	UN2111

Circuit Symbol and No.		Part Name	Part No.
Q	853	Transistor	UN2212
Q	871	Transistor	2SB1238
Q	872	Transistor	DTC123EK
Q	911	Transistor	2SD1760F5
Q	913	Transistor	IMD2A
Q	921	Transistor	2SB1243
Q	922	Transistor	UN2212
Q	931	Transistor	2SB1243
Q	932	Transistor	UN2212
Q	951	Transistor	UN2211
Q	952	Transistor	IMX1
Q	961	Transistor	2SA1162
Q	971	Transistor	2SC2712
Q	991	Transistor	IMD2A
Q	992	Transistor	2SD2396
D	131	Diode	MA3039(L)
D	231	Diode	MA152WA
D	232	Diode	MA152WA
D	233	Diode	MA152WA
D	261	Diode	MA152WK
D	262	Diode	MA152WK
D	263	Diode	MA152WK
D	401	Diode	MA152WK
D	402	Diode	MA152WK
D	551	Diode	MA3047(M)
D	803	Diode	MA3062(M)
D	804	Diode	DA204K
D	805	Diode	DA204K
D	806	Diode	DA204K
D	807	Diode	DA204K
D	808	Diode	MA3062(M)
D	809	Diode	DA204K
D	810	Diode	ERA15-02VH
D	851	Diode	MA3075(H)
D	852	Diode	1SS133
D	853	Diode	1SS133
D	871	Diode	MA152WK
D	901	Diode	ERA15-02VH
D	902	Diode	ERA15-02VH
D	911	Diode	HZS6L(B1)
D	912	Diode	ERA15-02VH
D	921	Diode	ERA15-02VH
D	922	Diode	ERA15-02VH
D	931	Diode	ERA15-02VH
D	932	Diode	ERA15-02VH
D	951	Diode	ERA15-02VH
D	952	Diode	HZS7L(C3)
D	953	Diode	HZS7L(A1)
D	961	Diode	MA152WK
D	971	Diode	MA152WK
D	991	Diode	HZS9L(B1)
L	101	Inductor	LAU3R3K
L	141	Inductor	CTF1420
L	221	Inductor	CTF1295
L	222	Inductor	LCTB2R2K2125
L	223	Ferri-Inductor	LAU1R0M
L	401	Ferri-Inductor	LAU2R2K
L	403	Inductor	LAU2R2K
L	551	Inductor	CTF1295
L	601	High Loss Inductor	CTF1410
L	602	High Loss Inductor	CTF1410
L	603	High Loss Inductor	CTF1410
L	651	High Loss Inductor	CTF1410
L	652	Inductor	CTF1295
L	671	Inductor	CTF1295
L	801	High Loss Inductor	CTF1410
L	961	Ferri-Inductor	LAU2R2K
TH	651	Thermistor	CCX1037
X	401	Crystal Resonator 7.200MHz	CSS1379
X	501	Crystal Resonator 4.332MHz	CSS1056

Circuit Symbol and No.		Part Name	Part No.
X	601	Resonator 12.58291MHz	CSS1402
X	651	Resonator 4.19MHz	CSS1436
S	601	Slide Switch(PRO/STD)	CSH1048
IL	801	Lamp 14V40mA	CEL1359
VR	551	Semi-fixed 22kΩ(B)	CCP1129
		High Out Unit	CWX2215
		DSP Unit	CWX2214
		FM/AM Tuner Unit	CWE1416
BZ	601	Buzzer	CPV1012
FU	801	IC Protector 0.4A	ICP-N10

RESISTORS

R	101	RS1/10S620J
R	102	RS1/10S101J
R	103	RS1/10S101J
R	104	RS1/10S222J
R	105	RS1/10S103J
R	106	RS1/10S102J
R	107	RS1/10S102J
R	108	RS1/10S473J
R	109	RS1/10S473J
R	110	RS1/10S223J
R	111	RS1/10S181J
R	112	RS1/10S102J
R	113	RS1/10S102J
R	114	RS1/10S181J
R	115	RS1/10S223J
R	116	RS1/10S332J
R	117	RS1/10S562J
R	118	RS1/10S472J
R	131	RS1/10S103J
R	132	RS1/10S223J
R	133	RS1/10S473J
R	134	RS1/10S104J
R	135	RS1/10S222J
R	136	RS1/10S561J
R	151	RS1/10S272J
R	152	RS1/10S272J
R	155	RS1/10S222J
R	156	RS1/10S222J
R	157	RS1/10S224J
R	158	RS1/10S224J
R	159	RS1/10S223J
R	160	RS1/10S223J
R	171	RS1/10S393J
R	172	RS1/10S393J
R	173	RS1/10S752J
R	174	RS1/10S752J
R	175	RS1/10S222J
R	176	RS1/10S222J
R	177	RS1/10S473J
R	178	RS1/10S473J
R	179	RS1/10S513J
R	180	RS1/10S513J
R	181	RS1/10S563J
R	182	RS1/10S563J
R	184	RS1/10S103J
R	185	RS1/10S224J
R	186	RS1/10S102J
R	187	RS1/10S102J
R	189	RS1/10S104J
R	190	RS1/10S104J
R	201	RS1/10S472J
R	202	RS1/10S472J
R	203	RS1/10S472J
R	204	RS1/10S472J
R	205	RS1/10S223J

=====Circuit Symbol and No.		===Part Name	Part No.
R	206		RS1/10S223J
R	207		RS1/10S331J
R	208		RS1/10S331J
R	209		RS1/10S331J
R	210		
R	227	(RN1/10SE4702D)	GGC1316
R	228	(RN1/10SE4702D)	GGC1316
R	229		RS1/16S102J
R	231		RS1/10S821J
R	232		RS1/10S821J
R	233		RS1/10S821J
R	234		RS1/10S821J
R	235		RS1/10S821J
R	236		RS1/10S821J
R	237		RS1/10S113J
R	238		RS1/10S113J
R	239		RS1/10S113J
R	240		RS1/10S113J
R	241		RS1/10S113J
R	242		RS1/10S113J
R	251		RS1/8S122J
R	252		RS1/10S122J
R	261		RS1/10S223J
R	262		RS1/10S102J
R	402		RS1/10S103J
R	403		RS1/10S0R0J
R	404		RS1/10S472J
R	405		RS1/10S222J
R	406		RS1/10S682J
R	407		RS1/10S102J
R	408		RS1/10S472J
R	409		RS1/10S682J
R	410		RS1/10S561J
R	411		RS1/10S103J
R	412		RS1/10S222J
R	413		RS1/10S152J
R	414		RS1/10S392J
R	415		RS1/10S392J
R	416		RS1/10S272J
R	417		RS1/10S0R0J
R	418		RS1/10S222J
R	419		RS1/10S222J
R	420		RS1/10S562J
R	421		RS1/10S222J
R	422		RS1/10S102J
R	424		RS1/10S222J
R	425		RS1/10S105J
R	426		RS1/10S473J
R	427		RS1/10S562J
R	428		RS1/10S472J
R	429		RS1/10S224J
R	430		RS1/10S0R0J
R	432		RS1/10S681J
R	455		RS1/10S0R0J
R	502		RS1/10S681J
R	504		RS1/10S105J
R	507		RS1/10S222J
R	552		RS1/10S102J
R	553		RS1/10S102J
R	554		RS1/10S102J
R	555		RS1/10S102J
R	556		RS1/10S102J
R	557		RS1/10S0R0J
R	558		RS1/10S0R0J
R	559		RS1/10S222J
R	560		RS1/10S222J
R	561		RS1/10S684J
R	562		RS1/10S681J
R	563		RS1/10S562J
R	564		RS1/10S102J

=====Circuit Symbol and No.		===Part Name	Part No.
R	565		RS1/10S0R0J
R	566		RD1/4PU151J
R	567		RS1/10S562J
R	568		RS1/10S333J
R	569		RS1/10S103J
R	570		RS1/10S102J
R	601		RS1/10S473J
R	602		RS1/10S473J
R	603		RS1/10S223J
R	607		RS1/10S473J
R	608		RS1/10S473J
R	609		RS1/16S473J
R	610		RS1/10S102J
R	611		RS1/10S473J
R	612		RS1/10S473J
R	613		RS1/10S681J
R	614		RS1/10S473J
R	617		RS1/10S221J
R	618		RS1/10S221J
R	619		RS1/10S221J
R	620		RS1/10S221J
R	621		RS1/10S221J
R	622		RS1/10S682J
R	623		RS1/10S682J
R	624		RS1/10S682J
R	625		RS1/10S682J
R	626		RS1/10S473J
R	627		RS1/10S393J
R	629		RS1/16S473J
R	631		RS1/10S102J
R	632		RS1/10S202J
R	636		RA3C681J
R	637		RS1/10S473J
R	638		RS1/10S473J
R	640		RS1/10S473J
R	641		RS1/10S473J
R	642		RS1/10S102J
R	644		RS1/10S473J
R	645		RS1/10S473J
R	646		RS1/10S473J
R	647		RS1/10S473J
R	648		RS1/10S473J
R	649		RS1/10S221J
R	650		RS1/10S682J
R	655		RS1/10S222J
R	656		RS1/10S222J
R	657		RS1/10S473J
R	658		RS1/10S473J
R	659	(RN1/10SE9102D)	GGC1317
R	662		RS1/10S222J
R	663		RS1/10S473J
R	664		RS1/10S103J
R	665	(RN1/10SE2402D)	GGC1318
R	667		RS1/10S0R0J
R	671		RS1/10S681J
R	672		RS1/10S102J
R	673		RS1/10S102J
R	674		RS1/10S102J
R	675		RS1/10S681J
R	676		RS1/10S681J
R	677		RS1/10S681J
R	678		RS1/10S681J
R	681		RS1/8S102J
R	682		RS1/8S102J
R	683		RS1/8S102J
R	685		RS1/10S103J
R	686		RS1/10S103J
R	687		RS1/10S223J
R	688		RS1/10S223J
R	689		RS1/10S223J

=====Circuit Symbol and No.		===Part Name	Part No.
R	690		RS1/10S272J
R	691		RS1/10S223J
R	692		RS1/10S272J
R	693		RS1/10S223J
R	694		RS1/10S272J
R	695		RS1/10S473J
R	696		RS1/10S473J
R	697		RS1/10S473J
R	698		RS1/8S331J
R	700		RS1/10S274J
R	801		RD1/4PU102J
R	802		RS1/8S103J
R	803		RS1/10S224J
R	804		RS1/10S222J
R	805		RD1/4PU102J
R	806		RS1/10S104J
R	807		RS1/10S222J
R	809		RS1/10S1R0J
R	810		RS1/10S103J
R	811		RS1/10S104J
R	815		RS1/10S222J
R	816		RS1/8S222J
R	817		RS1/10S222J
R	818		RS1/8S222J
R	819		RS1/8S103J
R	820		RS2PMF330J
R	821		RS1/8S472J
R	830		RS1/10S102J
R	851		RD1/4PU561J
R	852		RS1/10S102J
R	853		RS1/10S102J
R	854		RS1/10S102J
R	855		RS1/10S102J
R	856		RS1/10S473J
R	857		RS1/10S473J
R	859		RS1/10S0R0J
R	871		RS1/10S102J
R	872		RD1/4PU102J
R	873		RS1/10S473J
R	911		RS1/8S0R0J
R	912		RS1/10S392J
R	913		RS1/10S752J
R	921		RS1/10S472J
R	922		RD1/4PU221J
R	923		RD1/4PU221J
R	931		RS1/10S472J
R	932		RD1/4PU221J
R	933		RD1/4PU221J
R	941		RS1/10S102J
R	942		RS1/10S102J
R	943		RS1/10S472J
R	951		RS1/10S103J
R	952		RS1/10S103J
R	953		RS1/10S473J
R	954		RS1/10S472J
R	955		RS1/10S473J
R	956		RS1/10S103J
R	961		RS1/8S153J
R	962		RS1/10S472J
R	963		RS1/10S472J
R	964		RS1/10S102J
R	971		RS1/10S822J
R	973		RS1/10S102J
R	974		RS1/10S473J
R	975		RS1/10S472J
R	991		RD1/4PU221J
R	992		RS1/10S221J
R	993		RS1/10S472J
R	994		RS1/10S222J

=====Circuit Symbol and No.		===Part Name	Part No.
CAPACITORS			
C	101		CKSQYB104K16
C	102		CKSQYB104K16
C	103		CEJA1R0M50
C	104		CEJA1R0M50
C	105		CEJA100M16
C	106		CEJA100M16
C	107		CEJA1R0M50
C	108		CEJA1R0M50
C	109		CKSQYB102K50
C	131		CKSQYB681K50
C	132		CEJA101M10
C	141		CCSQCH101J50
C	151		CKSQYB223K50
C	152		CKSQYB223K50
C	153		CEV1R0M50
C	154		CEV1R0M50
C	171		CEJA1R0M50
C	172		CEJA1R0M50
C	173		CEV4R7M25
C	174		CEV4R7M25
C	175		CCSQCH820J50
C	176		CCSQCH820J50
C	177		CCSQCH390J50
C	178		CCSQCH390J50
C	179		CCSQCH390J50
C	180		CCSQCH390J50
C	182		CEJA1R0M50
C	183		CEJA220M6R3
C	184		CEJA101M10
C	185		CEJA100M16
C	186		CKSQYB223K50
C	201		CEJA4R7M35
C	202		CEJA4R7M35
C	203		CEJA100M16
C	204		CEJA100M16
C	205		CKSQYB104K16
C	206		CKSQYB104K16
C	207		CEJA100M16
C	208		CEJA100M16
C	217		CCSQCH221J50
C	218		CCSQCH101J50
C	227		CKSQYB103K50
C	229		CEJANP100M10
C	230		CKSYB475K10
C	231		CEZA4R7M25
C	232		CEZA4R7M25
C	233		CEZA4R7M25
C	234		CEZA4R7M25
C	235		CEZA100M16
C	236		CEZA100M16
C	237		CCSQCH221J50
C	238		CCSQCH221J50
C	239		CCSQCH221J50
C	240		CCSQCH221J50
C	241		CCSQCH221J50
C	242		CCSQCH221J50
C	307		CKSQYB104K16
C	308		CCH1125
C	351		CCSQCH221J50
C	352		CCSQCH101J50
C	353		CKSYB475K10
C	401		CKSQYB103K50
C	402		CKSQYB103K50
C	403		CKSQYB103K50
C	404		CKSQYB103K50

=====Circuit Symbol and No.	===Part Name	Part No.
C 405		CEV220M10
C 406		CKSQYB103K50
C 407		CEV220M10
C 408		CKSQYB103K50
C 409		CKSQYB103K50
C 410		CEV220M6R3
C 411		CKSQYB103K50
C 413	4.7µF/16V	CCH1250
C 414		CKSQYB103K50
C 415		CKSQYB103K50
C 416		CKLSR473K16
C 417	4.7µF/16V	CCH1250
C 418		CKSQYB103K50
C 419		CEVR47M50
C 420		CCSQCH150J50
C 421		CCSQCH150J50
C 422		CKSQYB103K50
C 423		CKSQYB103K50
C 424		CCSQCH101J50
C 425		CKSQYB473K16
C 426		CEV220M6R3
C 427		CKSQYB103K50
C 428		CKSQYB103K50
C 429		CKSQYB471K50
C 430		CKSQYB103K50
C 431		CKSQYB223K50
C 433		CKSQYB103K50
C 434		CKSQYB223K50
C 435		CKSQYB223K50
C 503		CCSQCH270J50
C 504		CCSQCH270J50
C 554		CKSQYB103K50
C 555		CKSQYB103K50
C 556		CKSQYB472K50
C 557		CKSQYB104K16
C 558		CKSQYB105K10
C 559		CKSQYB104K16
C 560		CKSQYB222K50
C 561		CCSQCH101J50
C 562		CEJA100M16
C 563		CKSQYB223K50
C 564		CKSQYB104K16
C 565		CKSQYB223K50
C 601		CCSQCH200J50
C 602		CCSQCH200J50
C 604		CEJA101M10
C 606		CCSQCH101J50
C 608		CCSQCH101J50
C 609		CEJA100M16
C 610		CKSQYB104K16
C 615		CCSQCH101J50
C 616		CCSQCH101J50
C 617		CCSQCH101J50
C 618		CCSQCH101J50
C 619		CCSQCH101J50
C 620		CCSRCH101J50
C 651		CKSYB475K10
C 653		CKSQYB102K50
C 671		CKSQYB103K50
C 672		CEZA100M16
C 683		CKSQYB103K50
C 684		CKSQYB103K50
C 685		CKSQYB103K50
C 686		CKSQYB473K16
C 803		CKSQYB103K50

=====Circuit Symbol and No.	===Part Name	Part No.
C 806		CKSYB475K10
C 807		CCSQCH101J50
C 808		CEJA101M16
C 809		CCSQCH101J50
C 811		CCSCH101J50
C 851		CKSQYB103K50
C 852		CKSYB475K10
C 853		CKSQYB102K50
C 854		CCSQCH101J50
C 855		CCSQCH101J50
C 856		CKSQYB102K50
C 871	470µF/16V	CCH1183
C 872		CEZA100M16
C 873		CKSQYB103K50
C 874		CKSQYB102K50
C 876		CASA4R7M10
C 911	1500µF/16V	CCH1312
C 912		CKSQYB472K50
C 913		CKSQYB103K50
C 914		CASA470M10
C 921		CKSQYB103K50
C 941		CKSQYB102K50
C 942	330µF/10V	CCH1181
C 943		CEZA470M25
C 944		CEJA1R0M50
C 945		CEJA101M10
C 946		CEJA470M10
C 947		CKSQYB102K50
C 951		CKSQYB105K10
C 952		CCSQCH101J50
C 971		CEJA2R2M50
C 972		CKSQYB102K50
C 973		CKSQYB104K16
C 991		CKSQYB473K16
C 992		CKSQYB102K50
C 993		CEJA101M10

C Unit Number : CWM5688(DEH-P945R/EW)
Unit Number : CWM5687(DEX-P99R/EW)
Unit Name : Keyboard Unit

MISCELLANEOUS

IC	1901	HIC Module	RS-140
IC	1902	IC	PD6237C
IC	1903	IC	SED1540F0A
IC	1904	IC	SED1526F0A
IC	1905	IC	SED1526F0A
Q	1901	Transistor	IMH10A
Q	1902	Transistor	IMH10A
Q	1903	Transistor	IMH10A
D	1901	Diode	MA153
D	1902	Diode	MA153
D	1903	Diode	MA153
D	1904	Diode	MA152WA
D	1905	LED	CL170PGCD
D	1906	LED	CL170DCD
D	1907	LED	CL170PGCD
D	1909	LED	CL170PGCD
D	1910	LED	CL170PGCD
D	1911	LED	CL170DCD
D	1912	LED	CL170PGCD
D	1913	LED	CL170PGCD
D	1914	LED	CL170PGCD
D	1915	LED	CL170DCD
D	1917	LED	CL170PGCD
D	1918	LED	CL170PGCD
D	1919	LED	CL170DCD

=====Circuit Symbol and No.		===Part Name	Part No.
D	1920	LED	CL170PGCD
L	1901	Chip Inductor	LCTA2R2J3225
L	1902	Inductor	LCTB2R2K2125
L	1903	Inductor	LCTB2R2K2125
L	1904	Inductor	LCTB2R2K2125
L	1905	Inductor	LCTA4R7J3225
X	1901	Radiator 3.77MHz	CSS1427
S	1901	Spring Switch	CSN1042
S	1902	Push Switch	CSG1117
S	1903	Switch	CSG1075
S	1904	Push Switch	CSG1117
S	1906	Push Switch	CSG1117
S	1907	Switch	CSG1075
S	1908	Push Switch	CSG1117
S	1909	Push Switch	CSG1117
S	1910	Push Switch	CSG1118
S	1911	Switch(DEH-P945R/EW)	CSG1084
S	1911	Switch(DEX-P99R/EW)	CSG1107
S	1913	Push Switch	CSG1117
S	1914	Push Switch	CSG1117
S	1915	Switch(DEH-P945R/EW)	CSG1085
S	1915	Switch(DEX-P99R/EW)	CSG1108
S	1916	Push Switch	CSG1118
VR	1901	Semi-fixed 330kΩ(B)	CCP1238
VR	1902	Semi-fixed 330kΩ(B)	CCP1238
EL	1901		CEL1580
LCD	1901	LCD(DEH-P945R/EW)	CAW1471
LCD	1901	LCD(DEX-P99R/EW)	CAW1493

RESISTORS

R	1901		RS1/8S222J
R	1902		RS1/8S222J
R	1903		RS1/8S222J
R	1904		RS1/10S121J
R	1905		RS1/10S473J
R	1907		RS1/8S751J
R	1908		RS1/10S103J
R	1910		RS1/8S751J
R	1911		RS1/8S751J
R	1912		RS1/8S102J
R	1913		RS1/10S103J
R	1915		RS1/10S0R0J
R	1916		RS1/8S751J
R	1917		RS1/4S471J
R	1918		RS1/10S103J
R	1920		RS1/10S0R0J
R	1922		RS1/10S103J
R	1927		RS1/10S473J
R	1928		RS1/10S473J
R	1929		RS1/10S473J
R	1930		RS1/10S473J
R	1931		RS1/16S470J
R	1932		RS1/16S470J
R	1935		RS1/10S473J
R	1936		RS1/10S473J
R	1937		RS1/10S103J
R	1938		RS1/10S473J
R	1939		RA4C101J
R	1940		RS1/10S103J
R	1941		RA4C101J
R	1942		RS1/10S103J
R	1943		RS1/10S473J
R	1944		RS1/10S473J
R	1945		RS1/10S473J
R	1946		RA3C102J
R	1947		RA3C102J
R	1948		RA3C102J
R	1950		RS1/10S624J
R	1951		RS1/10S624J
R	1952		RS1/10S624J

=====Circuit Symbol and No.		===Part Name	Part No.
R	1953		RS1/10S624J
R	1954		RS1/10S471J
R	1955		RS1/10S471J
R	1956		RS1/10S471J
R	1957		RS1/10S471J
R	1958		RS1/10S473J
R	1959		RS1/10S472J
R	1960		RS1/10S103J
R	1961		RS1/10S103J
R	1962		RS1/10S103J
R	1965		RS1/8S751J
R	1966		RS1/8S751J
R	1967		RS1/8S751J
R	1968		RS1/8S102J
R	1970		RS1/8S751J

CAPACITORS

C	1901		CSZSR100M6R3
C	1906		CKSQYB103K50
C	1907		CKSQYB103K50
C	1908		CKSQYB103K50
C	1909		CKSQYF105Z16
C	1910		CKSQYF105Z16
C	1911		CKSQYF105Z16
C	1912		CKSQYF105Z16
C	1913		CKSQYF105Z16
C	1914		CKSQYF105Z16
C	1915		CKSQYF105Z16
C	1916		CKSQYF105Z16
C	1917		CKSQYB103K50
C	1918		CSZS1R0M16
C	1919		CSZS1R0M16
C	1920		CSZS1R0M16
C	1921		CKSQYF105Z16
C	1922		CKSQYF105Z16
C	1923		CKSQYF105Z16
C	1924		CKSQYF105Z16
C	1925		CKSQYF105Z16
C	1926		CKSQYB103K50
C	1927		CSZS1R0M16
C	1928		CSZS1R0M16
C	1929		CSZS1R0M16
C	1934		CSZSR100M6R3
C	1935		CKSQYB104K16
C	1936		CSZSR100M6R3

F Unit Number : CWX2214
Unit Name : DSP Unit

MISCELLANEOUS

IC	3001	IC	PD5445C
IC	3101	IC	AK7712AVT
IC	3102	IC	TC9331F
IC	3103	IC(M5M51016BTP-70LL)	GGC1325
IC	3141	IC	BU4066BCFV
IC	3142	IC	TC7S08FU
IC	3201	IC	AK4321VF
IC	3301	IC	PM0017AM
L	3001	High Loss Inductor	CTF1410
L	3002	High Loss Inductor	CTF1410
L	3003	High Loss Inductor	CTF1410
L	3004	High Loss Inductor	CTF1410
L	3101	High Loss Inductor	CTF1410
L	3102	High Loss Inductor	CTF1410
L	3103	High Loss Inductor	CTF1410
L	3104	High Loss Inductor	CTF1410
L	3141	Inductor	LCTB2R2K2125
L	3142	High Loss Inductor	CTF1410
L	3143	Inductor	CTF1420
L	3151	High Loss Inductor	CTF1410

=====Circuit Symbol and No.	===Part Name	Part No.
L 3152	High Loss Inductor	CTF1410
L 3153	High Loss Inductor	CTF1410
L 3154	High Loss Inductor	CTF1410
L 3201	High Loss Inductor	CTF1410
L 3301	High Loss Inductor	CTF1410
L 3302	High Loss Inductor	CTF1410
L 3303	High Loss Inductor	CTF1410
L 3304	High Loss Inductor	CTF1410
L 3305	High Loss Inductor	CTF1410
L 3306	High Loss Inductor	CTF1410
X 3001	Resonator 10.00MHz	CSS1428
X 3101	Crystal Resonator 16.9344MHz	CSS1067
X 3102	Crystal Resonator 32.0MHz	CSS1360
RESISTORS		
R 3001		RS1/16S102J
R 3002		RS1/16S102J
R 3003		RS1/16S102J
R 3004		RS1/16S681J
R 3005		RS1/16S681J
R 3006		RS1/16S681J
R 3007		RS1/16S681J
R 3008		RS1/16S681J
R 3009		RS1/16S102J
R 3010		RS1/16S102J
R 3011		RS1/16S102J
R 3012		RS1/16S102J
R 3013		RS1/16S102J
R 3014		RS1/16S102J
R 3015		RS1/16S473J
R 3016		RA3C102J
R 3018		RS1/16S102J
R 3019		RS1/16S102J
R 3020		RS1/16S102J
R 3021		RS1/16S102J
R 3022		RS1/16S102J
R 3023		RS1/16S102J
R 3024		RS1/16S102J
R 3025		RS1/16S102J
R 3026		RS1/16S102J
R 3027		RS1/16S102J
R 3028		RS1/16S102J
R 3029		RS1/16S102J
R 3030		RS1/16S102J
R 3031		RS1/16S102J
R 3032		RS1/16S102J
R 3033		RS1/16S473J
R 3034		RS1/16S473J
R 3035		RS1/16S473J
R 3036		RS1/16S105J
R 3037		RS1/16S102J
R 3101		RS1/16S473J
R 3102		RS1/16S473J
R 3103		RA4C102J
R 3104		RA4C102J
R 3105		RA4C102J
R 3106		RA4C102J
R 3108		RA4C102J
R 3109		RA4C102J
R 3110		RA4C102J
R 3111		RA4C102J
R 3112		RS1/16S105J
R 3113		RS1/16S105J
R 3114		RS1/16S102J
R 3115		RS1/16S102J
R 3116		RS1/16S473J
R 3141		RA3C103J
R 3151		RSK1/16S151J
R 3152		RSK1/16S151J
R 3153		RSK1/16S151J

=====Circuit Symbol and No.	===Part Name	Part No.
R 3154		RSK1/16S151J
R 3155		RSK1/16S151J
R 3156		RSK1/16S151J
R 3160		RS1/10S0R0J
CAPACITORS		
C 3002		CKSYB106K6R3
C 3102		CKSQYB103K50
C 3104		CCSRCH100D50
C 3105		CCSRCH100D50
C 3107		CKSYB106K6R3
C 3108		CKSQYB104K16
C 3109		CSZSR470M6R3
C 3110		CKSQYB104K16
C 3111		CKSYB106K6R3
C 3112		CKSQYB104K16
C 3113		CCSQCH221J50
C 3114		CKSYB106K6R3
C 3115		CCSQCH100J50
C 3116		CCSQCH100J50
C 3117		CKSYB106K6R3
C 3119		CKSYB106K6R3
C 3120		CKSQYB104K16
C 3141		CKSQYB103K50
C 3143		CKSQYB103K50
C 3145		CCSQCH470J50
C 3146		CCSRCH221J50
C 3151		CKLSRB332K50
C 3152		CKLSRB332K50
C 3159		CKLSRR103K16
C 3160		CKLSRR103K16
C 3161		CKLSRR103K16
C 3162		CKLSRR103K16
C 3163		CKLSRR103K16
C 3164		CKLSRR103K16
C 3201		CKSYB106K6R3
C 3203		CKSQYB104K16
C 3205		CSZSR470M6R3
C 3206		CKSQYB104K16
C 3207		CKSYB106K6R3
C 3301		CKSYB475K10
C 3302		CKSYB475K10
C 3303		CKSYB475K10
C 3304		CKSYB475K10
C 3305		CKSYB475K10
C 3306		CKSYB475K10
C 3307		CKSQYB104K16
C 3308		CKSYB106K6R3
C 3309		CKSQYB104K16

L Unit Number : CWX2216
Unit Name : ASL Unit

MISCELLANEOUS		
IC 4501	IC	NJM2068MD
IC 4502	IC	NJM2068MD
Q 4501	Transistor	2SC2458
D 4501	Diode	MA152WK
D 4502	Diode	MA3043(LMH)
D 4503	Diode	MA3075(M)
VR 4501	Semi-fixed 10kΩ(B)	CCP1319
MIC4501		CPM1011
RESISTORS		
R 4501		RS1/8S222J
R 4502		RS1/8S683J
R 4503		RS1/8S103J
R 4504		RS1/8S472J
R 4505		RS1/8S471J

=====Circuit Symbol and No.	===Part Name	Part No.
R 4506		RS1/8S682J
R 4507		RS1/8S684J
R 4508		RS1/8S562J
R 4509		RS1/8S391J
R 4510		RS1/8S472J
R 4511		RS1/8S472J
R 4512		RS1/8S472J
R 4513		RS1/8S153J
R 4514		RS1/8S153J
R 4515		RS1/8S102J
R 4517		RS1/8S270J
CAPACITORS		
C 4501		CEJA470M10
C 4502		CEJA470M10
C 4503		CEJAR68M50
C 4504		CEJA100M16
C 4505		CEJA470M10
C 4506		CEJA470M16
C 4507		CEJA100M16
C 4508		CEJANP220M10
C 4509		CEJAR68M50
C 4510		CEJANP100M10
C 4511		CKSYB823K50
C 4512		CCSCH101J50
C 4513		CEJA470M10

M Unit Number :
Unit Name : Microphone Jack Unit

D 4601	LED	BR4361F

K Unit Number :
Unit Name : Flap Sense PCB

S 951	Switch(CLOSE)	CSN1012
S 952	Switch(HOME)	CSN1022

G Unit Number : CWM4538(DEX-P99R/EW)
Unit Name : D/D Converter Unit

MISCELLANEOUS

IC 4001	IC	TL1451ANS
Q 4001	Transistor	2SA1797
Q 4002	Transistor	2SC2812
Q 4003	Transistor	2SA1179
Q 4004	Transistor	2SA1576
Q 4005	Transistor	DTC124EU
D 4001	Diode	SC802-06
L 4001	Choke Coil 220µH	CTH1164
L 4002	Choke Coil 220µH	CTH1164
L 4003	Choke Coil 220µH	CTH1164

RESISTORS

R 4001		RS1/10S122J
R 4002		RS1/10S473J
R 4003		RS1/4S681J
R 4004		RS1/10S101J
R 4005	(RN1/10SE3302D)	GGC1319
R 4006	(RN1/10SE1202D)	GGC1269
R 4007		RS1/10S104J
R 4008	(RN1/10SE6201D)	GGC1324
R 4009		RS1/10S223J
R 4010		RS1/10S223J
R 4011		RS1/10S101J
R 4012	(RN1/10SE1002D)	GGC1320
R 4013	(RN1/10SE1002D)	GGC1320
R 4016		RS1/10S754J
R 4017	(RN1/10SE9101D)	GGC1321

=====Circuit Symbol and No.	===Part Name	Part No.
R 4018	(RN1/10SE1502D)	GGC1322
R 4019	(RN1/10SE3002D)	GGC1323
CAPACITORS		
C 4001	33µF/25V	CCH1249
C 4002		CKSQYB102K50
C 4003	33µF/25V	CCH1249
C 4004		CCSQCH101J50
C 4005		CKSQYB102K50
C 4006	33µF/25V	CCH1249
C 4008	33µF/25V	CCH1249
C 4009		CKSQYB102K50
C 4010		CKSQYB102K50
C 4011		CKSQYF105Z16
C 4012		CCSQCH221J50
C 4013		CKSQYB104K25
C 4014		CKSQYB102K50

High Out Unit
Consists of
D/D Converter PCB
High Out PCB

E **H** Unit Number : CWX2215(DEX-P99R/EW)
Unit Name : High Out Unit

MISCELLANEOUS

IC 4151	IC	NJM4580M
IC 4251	IC	NJM4580M
IC 4351	IC	NJM4580M
Q 4151	Transistor	IMX9
Q 4251	Transistor	IMX9
Q 4351	Transistor	IMX9
	D/D Converter Unit	CWM4358

RESISTORS

R 4153		RSK1/10S103J
R 4154		RSK1/10S103J
R 4155		RSK1/10S153J
R 4156		RSK1/10S153J
R 4157		RSK1/10S680J
R 4158		RSK1/10S680J
R 4159		RS1/10S223J
R 4160		RS1/10S223J
R 4161		RS1/10S222J
R 4162		RS1/10S222J
R 4163		RS1/10S103J
R 4253		RSK1/10S103J
R 4254		RSK1/10S103J
R 4255		RSK1/10S163J
R 4256		RSK1/10S163J
R 4257		RSK1/10S680J
R 4258		RSK1/10S680J
R 4259		RS1/10S223J
R 4260		RS1/10S223J
R 4261		RS1/10S222J
R 4262		RS1/10S222J
R 4353		RSK1/10S103J
R 4354		RSK1/10S103J
R 4355		RSK1/10S153J
R 4356		RSK1/10S153J
R 4357		RSK1/10S680J
R 4358		RSK1/10S680J
R 4359		RS1/10S223J
R 4360		RS1/10S223J
R 4361		RS1/10S222J
R 4362		RS1/10S222J

=====Circuit Symbol and No.	===Part Name	Part No.
CAPACITORS		
C 4151		CEWAR100M50
C 4152		CKSQYB471K50
C 4153		CEWAR100M50
C 4154		CEWAR100M50
C 4157		CCSQCH820J50
C 4158		CCSQCH820J50
C 4253		CEWAR100M50
C 4254		CEWAR100M50
C 4257		CCSQCH820J50
C 4258		CCSQCH820J50
C 4353		CEWAR100M50
C 4354		CEWAR100M50
C 4357		CCSQCH820J50
C 4358		CCSQCH820J50

I Unit Number : CWX2191
Unit Name : Mechanism FPC Unit

MISCELLANEOUS		
D 1	LED	CL200IRX
D 2	LED	CL200IRX
D 3	LED	CL200IRX
S 1	Spring Switch(CLAMP)	CSN1033
S 2	Spring Switch(HOME)	CSN1033
RESISTORS		
R 1		RS1/8S0R0J
R 2		RS1/8S0R0J
R 3		RS1/8S751J
R 4		RS1/8S751J
R 5		RS1/8S751J

J Unit Number : CWX2190
Unit Name : Photo FPC Unit

P 1	Photo-transistor	CPT-230S-X
P 2	Photo-transistor	CPT-230S-X
P 3	Photo-transistor	CPT-230S-X

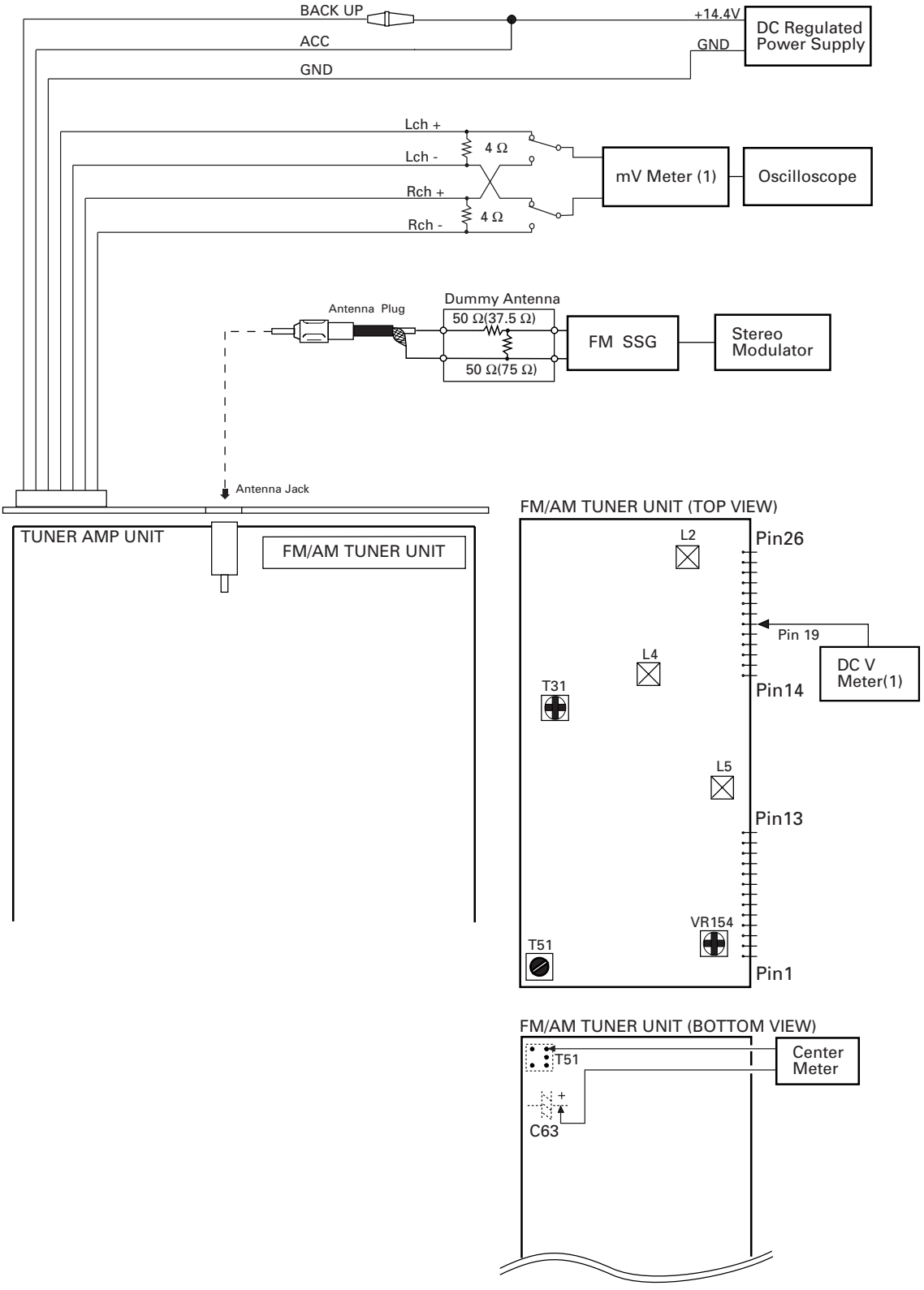
Miscellaneous Parts List

	Pickup Unit(Service)	CXX1290
M 1	CRG Motor Assy(Carriage)	CXB1670
M 2	LOAD Motor Unit(Loading)	CXB1684
M 3	Motor(Spindle)	CXM1129
M 851	Motor	CXM1085

6. ADJUSTMENT

6.1 TUNER ADJUSTMENT

● Connection Diagram



FM ADJUSTMENT

Modulation M:MONO MOD., 400Hz 30%(22.5kHz Dev.)
S:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)

NOTE:Before proceeding to further adjustments after switching power ON, let the tuner run for ten minutes to allow the circuits to stabilize.

	No.	FM SSG		Displayed	Adjustment	Adjustment Method
		Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
TUN Volt	1	•••••	•••••	108.0	L5	DC V Meter(1) : 6V
IF	1	98.1 M	60	98.1	T51	Center Meter : 0
ANT Coil	1	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	1	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
IFT	1	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	1	98.1 S	39	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

FM RDS SL VOLTAGE ADJUSTMENT, INSPECTION AND CONFIRMATION

No.	Standard	Measurement Point	Adjustment Point	Conditions
1	Adjustment 1.75+0.05[V] standard –0.35[V] Inspection +0.15[V] standard -0.45[V]	SL1 or SL2	VR551	FM:104.0 MHz ST:Single channel should modulate by 60% f:400 Hz RF:Input 35 dBf
2	Confirm display of FMSL voltage (in TUN Test Mode) The upper (left) two digits of the 8 digits displayed next to frequency in the rotary display (in Service Mode) should be 09 to 0B			

6.2 KEYBDOARD UNIT ADJUSTMENT

● ADJUSTMENT OF VISUAL-FIELD ANGLE OF THE KEYBOARD UNIT

No.	Standard	Measurement Point	Adjustment Point	Conditions
1	Adjustment standard -0.10[V]	-2.5+0.10[V] or TP14	IC1904-6pin	VR1902 SW VDD supply voltage 5[V]
	Inspection +0.15[V] standard -0.15[V]	IC1905-6pin - or TP15	VR1901	

6.3 CHECKING THE GRATING AFTER CHANGING THE PICKUP UNIT

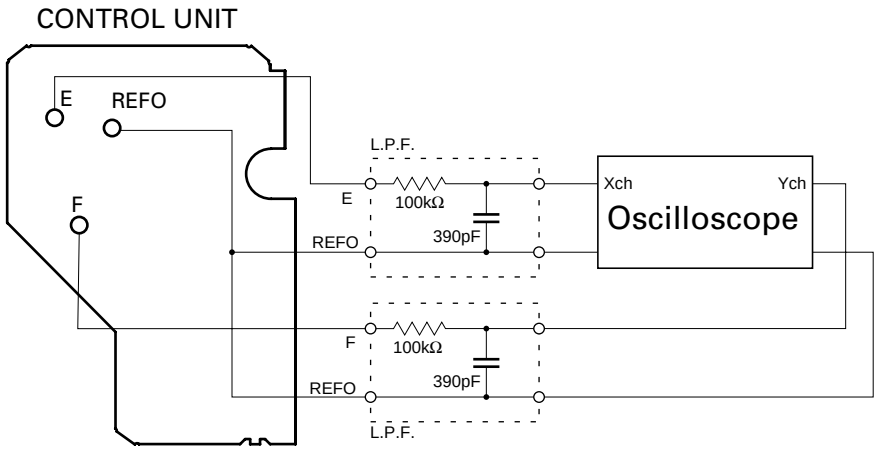
• **Note :**
Unlike previous CD mechanism modules the grating angle of the PU unit cannot be adjusted after the PU unit is changed. The PU unit in the CD mechanism module is adjusted on the production line to match the CD mechanism module and is thus the best adjusted PU unit for the CD mechanism module. Changing the PU unit is thus best considered as a last resort. However, if the PU unit must be changed, the grating should be checked using the procedure below.

• **Purpose :**
To check that the grating is within an acceptable range.

• **Symptoms of Mal-adjustment :**
If the grating is off by a large amount symptoms such as being unable to close tracking, being unable to perform track search operations, or track searching taking a long time, may appear.

• **Method :**

• Measuring Equipment	• Oscilloscope, Two L.P.F.
• Measuring Points	• E, F, REFOUT
• Disc	• ABEX TCD-784
• Mode	• TEST MODE



• **Checking Procedure**
1. In test mode, load the disc and switch the 5V regulator on.
2. Using the **TR+** and **TR-** buttons, move the PU unit to the innermost track.
3. Press key **3** to close focus, the display should read "91". Press key **2** to implement the tracking balance adjustment the display should now read "81". Press key **3** 4 times. The display will change, returning to "81" on the fourth press.
4. As shown in the diagram above, monitor the LPF outputs using the oscilloscope and check that the phase difference is within 75° . Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than 75° try changing the PU unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than 75° then the mechanism should be judged to be at fault.

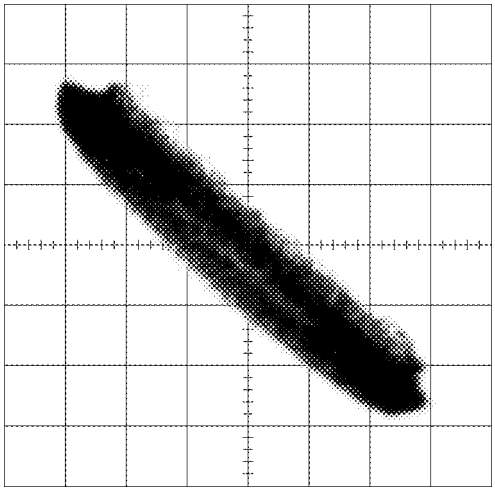
• **Note**
Because of eccentricity in the disc and a slight misalignment of the clamping center the grating waveform may be seen to "wobble" (the phase difference changes as the disc rotates). The angle specified above indicates the average angle.

• **Hint**
Reloading the disc changes the clamp position and may decrease the "wobble".

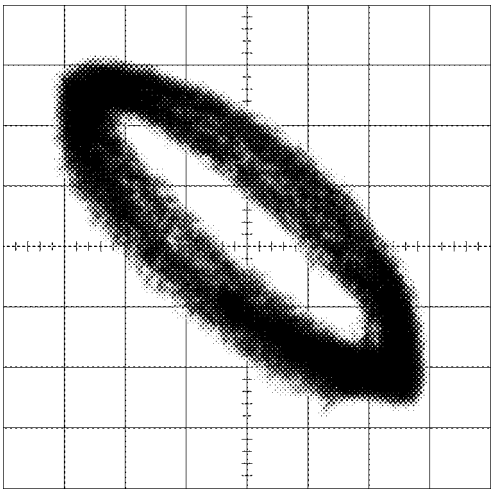
Grating waveform

Ech → Xch 20mV/div, AC
Fch → Ych 20mV/div, AC

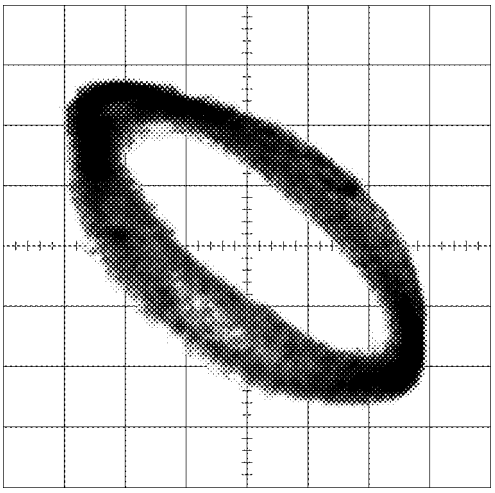
0°



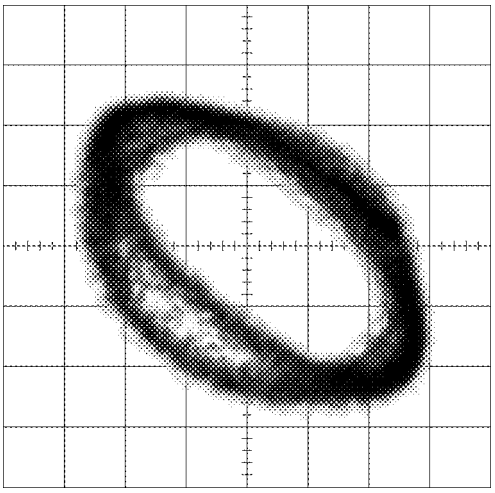
30°



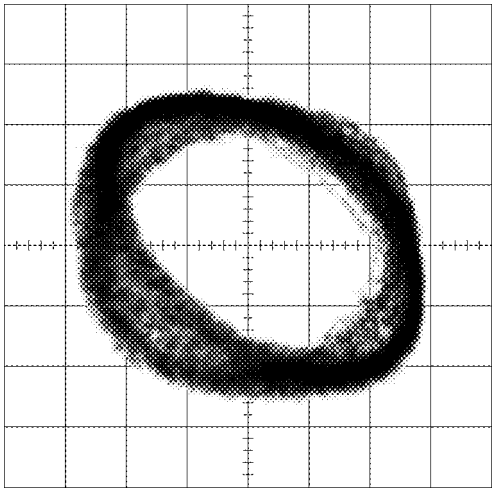
45°



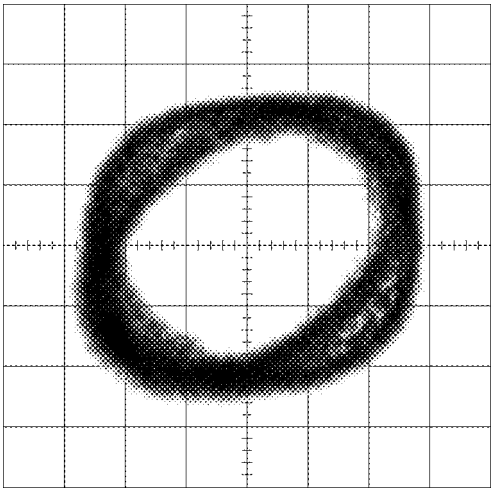
60°



75°



90°



7. GENERAL INFORMATION

7.1 PARTS

7.1.1 IC

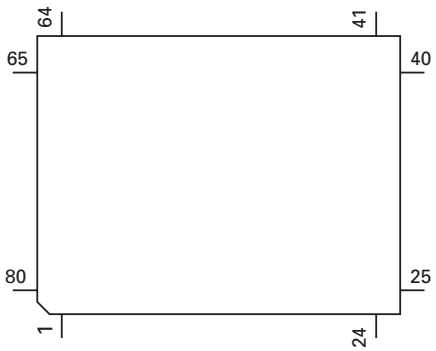
UPD63702AGF
BA6797FM
LC89170M
BA05SFP
LB1930M
PM2007A
PD4905A
PD4931A
PD0236AM
PD6237B
SED1540F0A
SED1526F0A
PD5445A
AK7712AVT
GGC1325(M5M51016BTP-70LL)
TC7S08FU
AK4321VF
PM0017AM
NJM4580M

● **Pin Functions (UPD63702AGF)**

Pin No.	Pin Name	I/O	Function and Operation
1	D.VDD		Supplies current of positive voltage to the logic circuits
2	$\overline{\text{RST}}$	I	System reset input pin
3	AO	I	Microcomputer interface AO="L": $\overline{\text{STB}}$ active and set to address register AO="H": $\overline{\text{STB}}$ active and set to parameter
4	$\overline{\text{STB}}$	I	Signal to latch serial data within the LSI
5	$\overline{\text{SCK}}$	I	Clock input pin to input and output serial data
6	SO	O	Outputs serial data and status signal
7	SI	I	Serial data input pin
8	D.GND		Logic circuit GND
9	X.GND		Crystal oscillation circuit GND
10	XTAL	I	Crystal oscillator connection pin
11	$\overline{\text{XTAL}}$	O	Crystal oscillator connection pin
12	X.VDD		Supplies current of positive voltage to the crystal oscillation circuit
13	DA.VDD		Supplies current of positive voltage to the D/A converter
14	R+	O	Right channel analog audio data output pin
15	R-	O	Right channel analog audio data output pin
16,17	DA.GND		D/A converter GND
18	L-	O	Left channel analog audio data output pin
19	L+	O	Left channel analog audio data output pin
20	DA.VDD		Supplies current of positive voltage to the D/A converter
21	D.VDD		Supplies current of positive voltage to logic circuit
22	FLAG	O	Flag output pin to indicate that audio data currently being output consists of noncorrectable data
23	WDCK	O	Pin to output double the frequency of LRCK
24	C16M	O	Pin to output the clock
25	EMPH	O	Output pin for the pre-emphasis data in the sub-Q code
26	DIN	I	Input pin for serial audio data
27	DOUT	O	Output pin for the serial audio data
28	SCKO	O	Output pin for the clock for the serial audio data
29	LRCK	O	Signals to distinguish the right and left channels of the audio data output from DOUT. Frequency is 44.1kHz at 50% duty at normal regeneration
30	TX	O	Output pin for the digital audio interface data
31	CTLV	I	Oscillation control pin for high-frequency clock generation VCO used for the digital PLL upon regeneration at fast speed of 2- or 4-fold
32	POUT	O	Output point for phase comparison
33	D.GND		GND for the logic circuit
34	VCO	I	Input pin for the inverter
35	$\overline{\text{VCO}}$	O	Output pin for the inverter
36	D.VDD		Supplies current of positive voltage to the logic circuit
37	PLCK	O	Pin for monitoring the bit clock

Pin No.	Pin Name	I/O	Function and Operation
38	LOCK	O	Indicates "H" when the synchronized pattern detection signal matches the frame counter output at the EFM recovery modulation, and "L" when they don't match
39	WFCK	O	Minute-cycle signal for the bit clock, the signal indicates the cycle of 1 frame (approx. 7.35kHz)
40	RFCK	O	Minute-cycle signal for the clock, the signal indicates cycle of 1 frame (approx. 7.35kHz)
41	D.GND		GND for the logic circuit
42,43	TEST0,1	I	Test pins
44,45	TM2, TM4	I	Pins for controlling regeneration at fast speed of 2- or 4-fold
46-49	T4-T7	I	Test pins
50,51	C1D1, C1D2	O	Output pin for indicating the C1 error correction results
52-54	C2D1-C2D3	O	Output pin for indicating the C2 error correction results
55	D.VDD		Supplies current of positive voltage to the logic circuit
56	SFSY	O	Outputs 1 word of the subcode. Generally, 1 cycle is approx 136 micro seconds
57	SBSY	O	The signal indicates the beginning of the subcode block. The SFSY signal is output at high level every 98 times
58	SBSO	O	Output pin for the subcode data
59	SBCK	I	Input pin for the clock signal for read-out of the subcode data
60	A.GND		GND for the analog circuit
61	MD	O	Output pin for the spindle drive
62	SD	O	Output pin for the sled drive
63	TD	O	Output pin for the tracking drive
64	FD	O	Output pin for the focus drive
65	FBAL	O	Output pin for the focus balance control
66	TBAL	O	Output pin for the tracking balance control
67	A.VDD		Supplies current of positive voltage to the analog circuit
68	TBC	I	Switches coefficient banks for the tracking filter
69	EFM	I	Input pin for the EFM signal
70	HOLD	I	Input pin for the hold control signal
71	RFOK	I	Input pin for the RFOK signal
72	MIRR	I	Input pin for the MIRR signal
73	A.GND		GND for the analog circuit
74	HOME	I	Home position detector input
75	VR1	I	The signal input through these pins is digitized to 8-bit by the A/D converter, which by operation of the assigned register, can be read into the microcomputer
76	FE	I	Inputs a focus-error signal from the RF amplifier
77	TE	I	Inputs a tracking-error signal from the RF amplifier
78	TEC	I	Input pin for the tracking comparator
79	REFOUT	O	Output point for midpoint potential for the A/D converter for the LSI portion
80	A.VDD		Supplies current of accurate voltage to the analog circuit

*UPD63702AGF

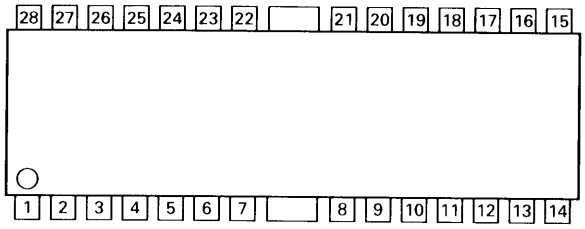


IC's marked by* are MOS type.
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

● Pin Functions (BA6797FM)

Pin No.	Pin Name	I/O	Function and Operation
1	OUT1-A	O	Driver CH1 output
2	OUT1-B	O	Driver CH1 output
3	PRE-OUT1	O	CH1 pre-amplifier output
4	IN1(-)	I	CH1 pre-amplifier inverted input
5	IN1(+)	I	CH1 pre-amplifier input
6	REG-B	O	External Tr base connection
7	REG-OUT	O	Fixed voltage output (External Tr collect connection)
8	BIAS-IN	I	Bias input
9	MUTE	I	Mute control
10	IN2(+)	I	CH2 pre-amplifier input
11	IN2(-)	I	CH2 pre-amplifier inverted input
12	PRE-OUT2	O	CH2 pre-amplifier output
13	OUT2-B	O	Driver H2 output
14	OUT2-A	O	Driver CH2 output
15	GND		Sub straight GND
16	OUT3-A	O	Driver CH3 output
17	OUT3-B	O	Driver CH3 output
18	PRE-OUT3	O	CH3 pre-amplifier output
19	IN3(-)	O	CH3 pre-amplifier inverted output
20	IN3(+)	O	CH3 pre-amplifier output
21	VCC		VCC
22	VCC		VCC
23	IN4(+)	O	CH4 pre-amplifier output
24	IN4(-)	O	CH4 pre-amplifier inverted output
25	PRE-OUT4	O	CH4 pre-amplifier output
26	OUT4-B	O	Driver CH4 output
27	OUT4-A	O	Driver CH4 output
28	GND		Sub straight GND

BA6797FM



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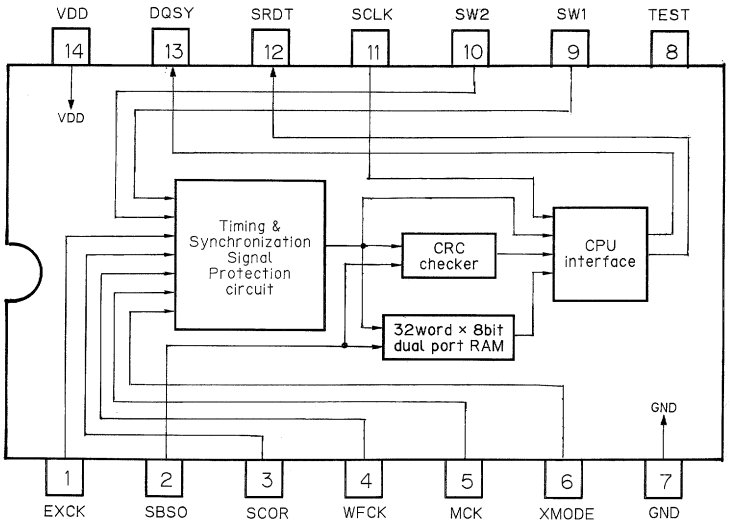
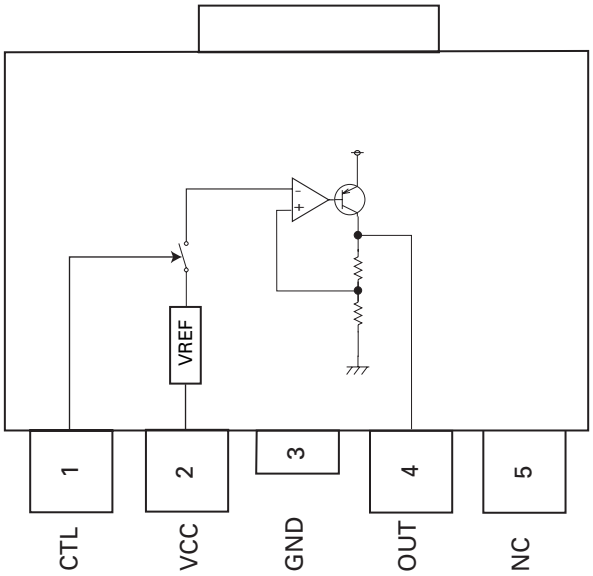
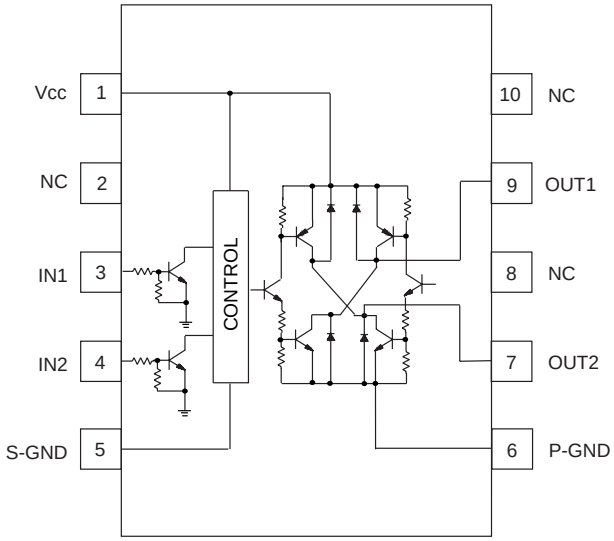


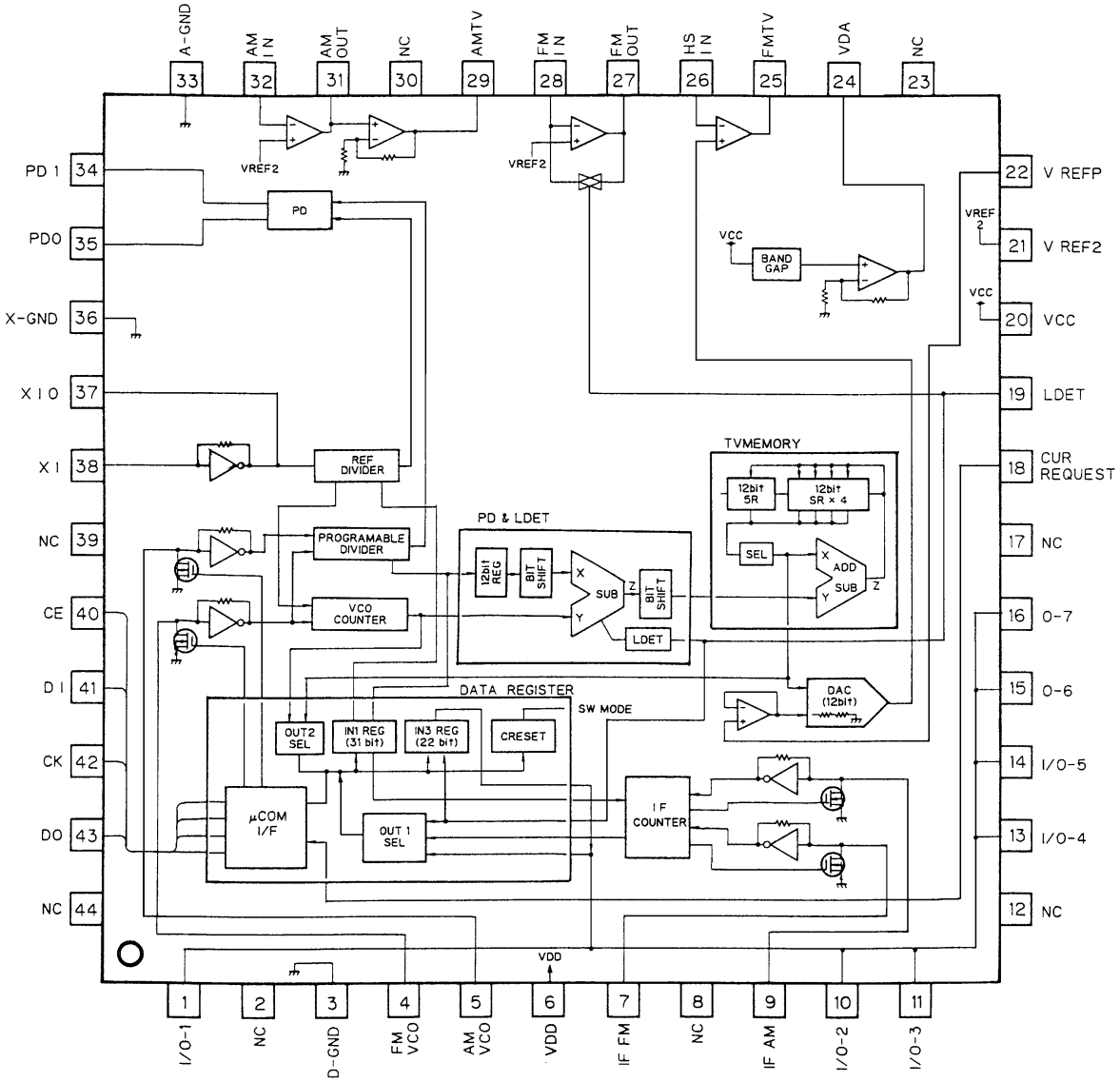
IC702:BA05SFP



LB1930M



PM2007A

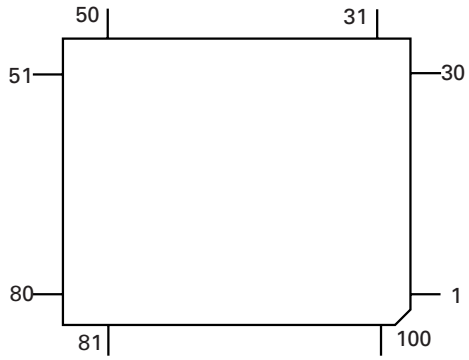


● **Pin Functions (PD4905A)**

Pin No.	Pin Name	I/O	Function and Operation
1	$\overline{\text{SWVDD}}$	O	GRIL:Power Output
2	$\overline{\text{DSENS}}$	I	Detach sense input
3	$\overline{\text{PSENS}}$	I	Grille eject button sense input
4	$\overline{\text{ISENS}}$	I	Illumination sense input
5	TESTIN	I	Test program input
6	$\overline{\text{DRST}}$	O	Reset output
7	NC		Not used
8	$\overline{\text{SK}}$	I/O	SK input
9	RECIVE	I	During decoder receive output
10	NC		Not used
11	$\overline{\text{RESET}}$	I	Reset input
12	XT2		Clock connection pin (OPEN)
13	XT1		Clock connection pin (VSS connection)
14	VSS		GND
15	X2		Main oscillator connection pin
16	X1		Main oscillator connection pin (12.582912MHz)
17	REGOFF		Regulator operation designate signal (VDD connection)
18	REGC		Regulator output sense capacity connection (VDD connection)
19	VDD		Power supply
20	ILMPW	O	Illumination output
21	SYSPW	O	System power control output
22	$\overline{\text{ADPW}}$	O	A/D converter power output
23	LCDPW	O	LCD backlight power output
24	IPPW	O	IPBUS driver power control output
25	ASENBO	O	Slave Acc sense output
26	NC		Not used
27	TELIN	I	TEL mute input
28	MUTE	O	All mute output
29	DIM	O	Dimer output
30	FLPCLS	O	Auto flap motor close output
31	FLPOPN	O	Auto flap motor open output
32	$\overline{\text{FOPNSW}}$	I	Auto flap motor open SW input
33	$\overline{\text{FCLSSW}}$	I	Auto flap motor close SW input
34	FLPPW	O	Auto flap power output
35	NC		Not used
36	$\overline{\text{TMUTE}}$	O	TUNER mute output
37	STDPRO	I	DSP STD/PRO select input
38	SD	I	SD input
39	$\overline{\text{ST}}$	I	Stereo input
40	VSS2		GND
41	VDD2		Power supply
42	$\overline{\text{MDSENS}}$	I	RDS:Demodulation detect input
43	NC		Not used
44	$\overline{\text{RDSLK}}$	I	RDS:LK input
45	$\overline{\text{CURRQ}}$	O	RDS:TUNER voltage FIX output
46	RDT	I	RDS:Data input
47	DRELAY	O	DFS:Extral relay output
48	DRSENS	I	DFS:Door open/close sense input
49	DRSYS	O	DFS:Door system select output
50	$\overline{\text{DLED}}$	O	DFS:Alarm LED output
51	DLSENS	I	DFS:Door lock cancellation sense input
52	STCUT	O	DFS:Ignition cut off output
53	$\overline{\text{MOSENS}}$	I	DFS:Motion/Window damage sensor input
54	DALMON	O	During DFS alarm ON output
55-60	NC		Not used
61	MCSENS	I	Mic sense input
62	PCL	O	Clock adjust output
63	$\overline{\text{BRXEN}}$	I/O	P-BUS:Communication input/output

Pin No.	Pin Name	I/O	Function and Operation
64	$\overline{\text{BSRQC}}$	I	P-BUS:Communication request input (CD)
65	$\overline{\text{BSCK}}$	I/O	P-BUS:Data clock input/output (Test mode clock output)
66	BSI	I	P-BUS:Communication data input (Test mode data input)
67	BSO	I/O	P-BUS:Communication data output
68	$\overline{\text{BRST}}$	O	P-BUS:Reset output
69	MICSEL	O	Mic select output
70	$\overline{\text{BSRQD}}$	I	P-BUS:Communication request input (DSP)
71,72	NC		Not used
73	TEST/VPP		IC test pin
74	SL	I	Signal level input (A/D)
75	CL	I	RDS:Synchronizing signal input (A/D)
76	NL	I	RDS:Noise level input (A/D)
77	SEL	I	Destination descrimination input
78	SOR0	O	Source select output 0
79	SOR1	O	Source select output 1
80	ALMSEL	O	DFS alarm select output
81	ADSEL	I	Mic select input
82	AVDD		A/D converter power supply
83	AVREF1		A/D converter standard voltage
84	AVSS		A/D converter GND
85	RX	I	IP-BUS: Data input
86	TX	O	IP-BUS:Data output
87	GND2		Not used
88	$\overline{\text{LDET}}$	I	RDS:PLL lock detect input
89	$\overline{\text{RCK}}$	I	RDS:RDS clock input
90	RDS57K	I	RDS:57KHz pulse count input
91	NC		Not used
92	$\overline{\text{ASENS}}$	I	Acc sense input
93	$\overline{\text{BSENS}}$	I	B.up sense input
94	TUNPDI	I	PLL:Data input
95	KEYDT	I	GRIL:Data input
96	DPDT	O	GRIL:Data output
97	TUNPCK	O	PLL:Clock output
98	TUNPDO	O	PLL:Data output
99	TUNPCE	O	PLL:Chip enable output
100	PEE	O	PEE beep output

*PD4905A



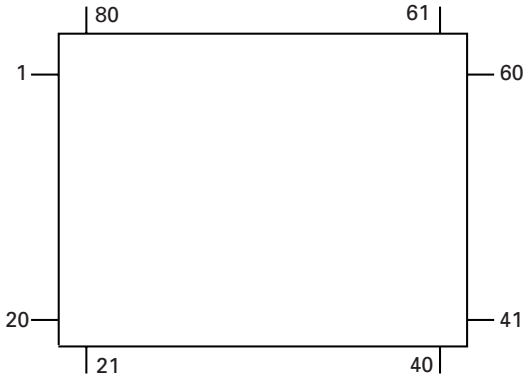
● **Pin Functions (PD4931A)**

Pin No.	Pin Name	I/O	Format	Function and Operation
1	FOK	I		Focus OK input
2	MIRR	I		Mirror detect input
3	LOCK	I		Spindle lock input
4	AVss			A/D GND electric potential
5	NC			Not used
6	EMPH	O	C	Pre-emphasis output
7	AVREF1	I		A/D Reference electric potential input
8	TSI	I		Decode IC serial data input
9	NC			Not used
10	$\overline{\text{TSCK}}$	O	C	Decode IC serial clock output
11	XSI	I		Serial data input from CD LSI
12	XSO	O	C	Serial data output to CD LSI
13	$\overline{\text{XSCK}}$	O	C	Serial clock output to CD LSI
14	XA0	O	C	CD LSI command/data control output
15	$\overline{\text{XSTB}}$	O	C	Strobe output to CD LSI
16	NC			Not used
17	BDATA	I/O	C	P-Bus serial data input/output
18	$\overline{\text{BSCK}}$	I/O	C	P-Bus serial clock input/output
19	$\overline{\text{XRST}}$	O	C	CD LSI reset output
20	CONT	O	C	Servo driver voltage control output
21	CD5VON	O	C	CD +5V power supply control output
22	VDCONT	O	C	VD power supply control output
23	CDMUTE	O	C	CD Mute control output
24	CDEJET	O	C	Loading Motor Eject control output
25	CDLOAD	O	C	Loading Motor Load control output
26	BMUTE	O	C	Bus mute output
27	$\overline{\text{CLAMP}}$	I		Disc clamp SW input
28	$\overline{\text{CRST}}$	O	C	Compressor IC reset output
29	CBANK0	O	C	Compressor IC bank set output 0
30	CBANK1	O	C	Compressor IC bank set output 1
31	CBANK2	O	C	Compressor IC bank set output 2
32	$\overline{\text{CCS}}$	O	C	Compressor IC chip select
33	Vss			GND electric potential
34	DSET	O	C	Disc set indicator light output
35	SCONT	O	C	Spindle double speed output
36-54	NC			Not used
55	ERREJ	I		Disc eject select input at the error
56	$\overline{\text{CSENS}}$	I		Ope-fla close sense input
57	TXARI	I		TX output select input
58	BSRQ	I/O	C	P-Bus service request output
59	BRXEN	I/O	C	P-Bus reception enable status
60	$\overline{\text{RESET}}$	I		System reset input
61	NC			Not used
62	$\overline{\text{BRST}}$	I		P-Bus Reset input
63	$\overline{\text{DQSY}}$	I		TEXT decode read permission input
64-66	NC			Not used
67	$\overline{\text{ADENA}}$	O	C	A/D reference voltage supply control input
68	VDD			Positive power supply
69	X2			Main clock oscillator connection pin
70	X1			Main clock oscillator connection pin
71	IC(Vpp)			Internally Connected (Vss)
72	NC			Not used
73	$\overline{\text{TESTIN}}$	I		Test program start input
74	AVpp			A/D analog power supply
75	AVREF0			A/D reference voltage input
76	EJTENS			Disc eject position sense input
77	DSCSNS			Disc set defect input

Pin No.	Pin Name	I/O	Format	Function and Operation
78	VDSENS	I		VD short sense input
79	TEMP	I		Temperature sense input
80	NC			Not used

Format	Meaning
C	C MOS

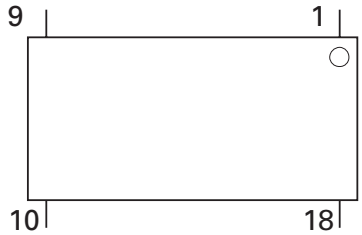
*PD4931A



● **Pin Functions (PD0236AM)**

Pin No.	Pin Name	I/O	Function and Operation
1	BCSEL	I	Bit clock fs select
2	DASEL	I	Bit expand select
3	NC		Not used
4	LRSEL		LRCKO polarity select
5	LRCKO	O	LRCKO output
6	NC		Not used
7	BCKO	O	Bit clock output
8	DATAO	O	Data output
9	GND		GND
10	VDD		Power supply terminal
11	LRCKI	I	LRCKO input
12,13	NC		Not used
14	DATAI	I	Data input
15	BCKI	I	Bit clock input
16	NC		Not used
17	SEL	I	Bit expand/input data output select
18	XRST	I	Reset input

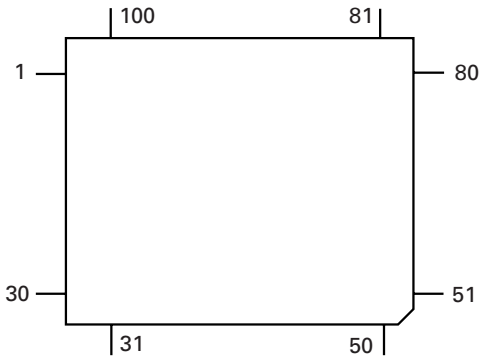
PD0236AM



● **Pin Functions (PD6237B)**

Pin No.	Pin Name	I/O	Format	Function and Operation
1-9	NC			Not used
10	RDX	O	C	Address bus read strobe output
11	VSS	O	C	Digital GND
12	WRX	O	C	Address bus write strobe output
13-18	NC			Not used
19	KYDT	O	C	Key data to system micro-computer
20	DPDT	I		Display data from system micro-computer
21	SCDCLK	I		Test program clock
22	DATAOT	O	C	Test program data
23	Vcc			Digital GND
24	DATAIN	I		Test program data
25,26	NC			Not used
27	C			Reference voltage
28-33	NC			Not used
34	AVcc			Analog power supply
35,36	NC			Not used
37	AVSS			Analog GND
38	ILM1	O	C	Illumination control output 1
39	ILM2	O	C	Illumination control output 2
40,41	NC			Not used
42	GND			Digital GND
43-48	NC			Not used
49	MD0	I		Mode pin 0 (PULL-UP)
50	MD1	I		Mode pin 1 (PULL-UP)
51	MD2	I		Mode pin 2 (PULL-DOWN)
52	HSTX	I		Hardware standby input (PULL-UP)
53	REMIN	I		Remote control pulse input
54-58	NC			Not used
59-62	KST0-KST3	O	C	Key scan output
63,64	NC			Not used
65	RES1	O	C	SED1450 Reset output
66	RES2	O	C	SED1526 Reset output
67-70	KDT0-KDT3	I	C	Key data input
71-73	NC			Not used
74	OSCK4K	O	C	SED1540 Clock output
75-77	NC			Not used
78	CS1	O	C	SED1526 Top lank chip select output
79	CS2	O	C	SED1526 Bottom lank chip select output
80	CS3	O	C	SED1540 chip select output
81	VSS			Digital GND
82,83	X0,X1			Oscillation circuit
84	Vcc			Digital power supply
85-92	AD00-AD07	I/O	C	External data bus input/output
92	AD07	I/O	C	External data bus input/output
93	A0	O	C	External address output
94-100	NC			Not used

*PD6237B

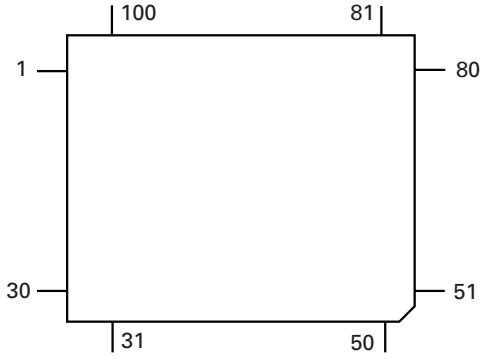


Format	Meaning
C	C MOS
N	N channel open drain

● **Pin Functions (SED1540F0A)**

Pin No.	Pin Name	I/O	Function and Operation
1-72	SEG71-0	O	Output for driving segment of LC
73	A0	I	Normally the lowest bit in the address bus of MPU is connected to distinguish between data and command.
74,75	OSC1,2		Terminal to connect resistor for internal oscillation
76	E($\overline{RD}$)	I	Enable clock input terminal of 68-system MPU Terminal to connect RD signal of 80-system MPU. While this signal is set to "L," data bus of SED1540 will be output.
77	R/$\overline{W}$($\overline{WR}$)	I	Input terminal of read/write control signal Terminal to connect write signal of 80-system MPU
78	VSS		0V connect to system GND
79-86	DB0-7		8-bit duplex data bus to be connected to a data bus of 8-bit or 16-bit standard MPU
87	VDD		Connect to +5V power supply VDD
88	$\overline{RES}$		Can be set to initial setting by setting RES to "L" when using 68-system MPU, or by setting RES to "H" when using 80-system MPU.
89	FR	I/O	Input/output terminal of LC alternating signal
90	V3		Multilevel power supply for driving LC
91	$\overline{CS}$	I	Chip select signal. Normally, signal obtained by decoding address bus signal is input.
92	NC		Not used
93	M/S		Terminal to select between master and slave operation to SED1540. Connect to VDD or VSS.
94,95	V2,1		Multilevel power supply for driving LC
96-99	COM0-3	O	Output for LC common (low) driving
100	SEG72	I/O	Output for driving segment of LC

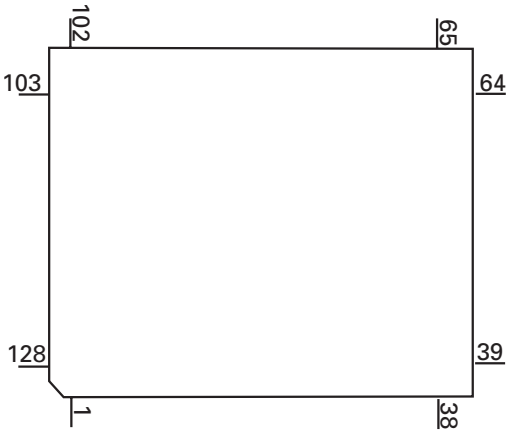
SED1540F0A



● **Pin Functions (SED1526F0A)**

Pin No.	Pin Name	I/O	Function and Operation
1-5	V1-V5		Multilevel power supply for driving LCD
6	VR	I	Voltage adjustment
7	VDD		+5V power supply
8	VOUT	O	Ascending voltage output
9	CAP2-	O	Ascending voltage capacitor connection
10	CAP2+	O	Not used
11	CAP1-	O	Ascending voltage capacitor connection
12	CAP1+	O	Ascending voltage capacitor connection
13	VSS		GND
14	M/S	I	IC master/slave operation select
15	SR2	I	MPU interface select, Parallel/serial data input select, Reset input select
16	SR1	I	MPU interface select, Parallel/serial data input select, Reset input select
17	$\overline{WR}$	I	MPU WR signal connection
18	$\overline{RD}$	I	MPU RD signal connection
19	CS2	I	Chip select signal
20	CS1	I	Chip select signal
21	A0	I	Data/command discrimination
22	FR	O	Not used
23	CL	O	Not used
24-31	D0-D7	I/O	Serial data bus
32-39	COM0-7	O	Output for LCD common driving
40-48	NC		Not used
49-110	SEG0-61	O	Output for driving segment of LCD
111-128	NC		Not used

SED1526F0A

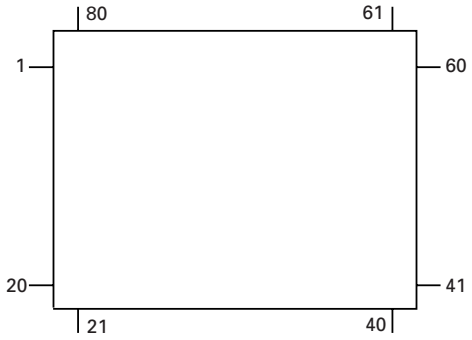


● **Pin Functions (PD5445A)**

Pin No.	Pin Name	I/O	Format	Function and Operation
1	SPCK	I	C	Connect to GND
2	NC			Not used
3	VST	O	C	Electronic volume strobe output
4	VDT	O	C	Electronic volume data output
5	VCK	O	C	Electronic volume clock output
6	CNVss	I		Connect to Vss
7	MCKRQ	I	C	CD unit MCK request input
8	NC			Not used
9	$\overline{\text{RESET}}$	I		Micro-computer hard reset input
10	Xout	O		System clock output
11	Vss	I		GND
12	Xin	I		System clock input
13	Vcc	I		Micro-computer power supply 5V
14	$\overline{\text{NMI}}$	I	C	Connect to Vcc
15	BMUTEIN	I	C	CD unit LR clock supply data
16	SPRQ	I	C	Connect to GND
17	$\overline{\text{BRST}}$	I	C	P-Bus reset input
18	ADTEST	I	C	A.EQ test mode start
19	MICSNS	I	C	A.EQ mic connection data
20	ADSEL	O	C	Signal/A.EQ mic input select
21	MUTERQ	O	C	Hard mute output
22,23	NC			Not used
24	DSPOUT	O	C	DSP serial data output
25	DSPIN	I	C	DSP serial data input
26	DSPCK	O	C	DSP serial clock output
27	NC			Not used
28	BSO	O	C	P-BUS data output
29	BSI	I	C	P-BUS data input
30	BSCK	I/O	C	P-BUS serial clock input/output
31	NC			Not used
32	$\overline{\text{BSRQ}}$	I/O	C	Service request input
33	$\overline{\text{BRXEN}}$	I/O	C	Reception enable input
34,35	DSPERR1	I	C	Connect to GND
36	DZF1	I	C	Front digital 0 data input
37	DZF0	I	C	Rear digital 0 data input
38	DZF2	I	C	Sub woofer digital 0 data input
39	$\overline{\text{TESTIN}}$	I	C	test program start/enable
40	DSPPW	O	C	DSP power supply switching
41	NGO	O	C	Noise gate ON/OFF
42-48	NC			Not used
49	FMUTE	O	C	Not used
50	SWMUTE	O	C	Not used
51	VOICE	I	C	Connect to GND
52-58	NC			Not used
59	IFHIZ	I	C	DSP micro-computer port Hiz set (test mode port)
60	$\overline{\text{DSPRST}}$	O	C	TC9331 hard reset
61	$\overline{\text{PD}}$	O	C	AK7712 power down
62	$\overline{\text{AKRST}}$	O	C	AK7712 reset
63	$\overline{\text{DSPCS2}}$	O	C	AK7712 chip select
64	$\overline{\text{DSPCS1}}$	O	C	TC9331 chip select
65	$\overline{\text{DSPRQ}}$	O	C	AK7712 data output request
66	DSPCD	O	C	TC9331 command/data
67	DSPRDY	I	C	AK7712 data ready
68	$\overline{\text{DSPACK}}$	I	C	DSP data write ready/ACK
69	SMODE	O	C	AK7712 master/slave
70	EMPIN	I	C	CD unit emphasis data input
71	$\overline{\text{EMPOUT}}$	O	C	DAC emphasis output

Pin No.	Pin Name	I/O	Format	Function and Operation
72	LRCKK	O	C	LRCK/BCLK select
73	SDATAK	O	C	Audio data select:LRCKK inverted gate
74	NOISE	I		ASL noise input
75	AVss	I		Connect Vss
76	MCKOUT	O	C	CD MCLK gate control
77	Vref	I		AD select reference voltage input
78	AVcc	I		Connect to Vcc
79	MO/ST	I	C	Connect to GND
80	NC			Not used

*PD5445A



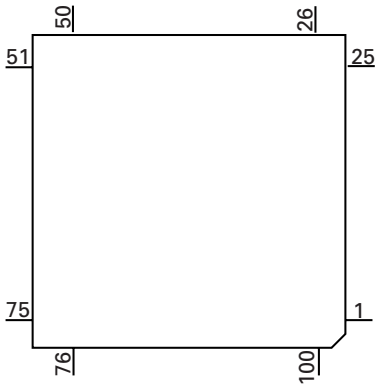
Format	Meaning
C	C MOS

● **Pin Functions (AK7712AVT)**

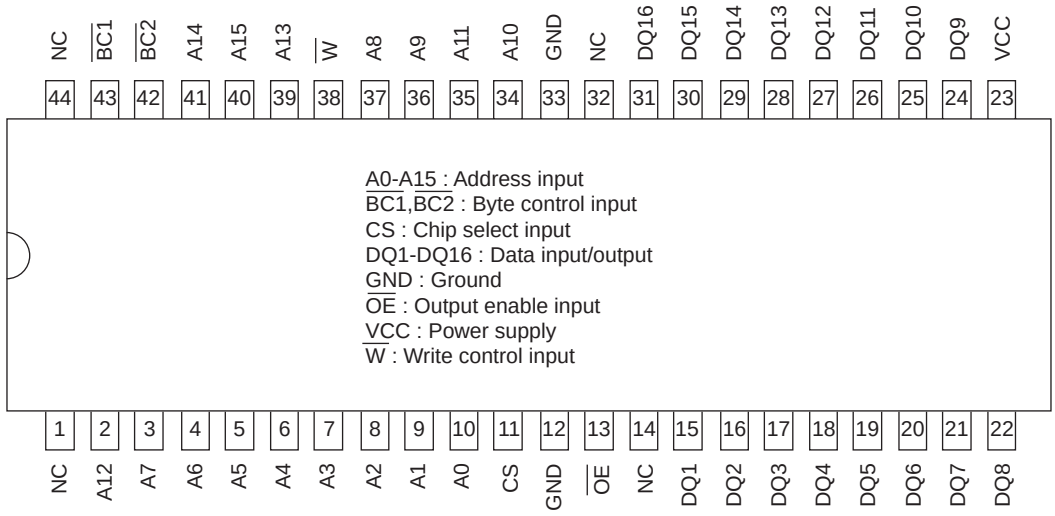
Pin No.	Pin Name	I/O	Function and Operation
1	TSTI1	I	Test input 1
2	OPCL	I	ADC,DAC connection select
3	$\overline{\text{PDAD}}$	I	AD reset control
4	$\overline{\text{PDDA}}$	I	DA reset control
5	$\overline{\text{PD}}$	I	Power down
6	$\overline{\text{RST}}$	I	Reset input
7	TSTIO1	I/O	Test input/output 1
8	TSTIO2	I/O	Test input/output 2
9	TSTIO3	I/O	Test input/output 3
10,11	DVB		Digital PCB power supply
12	SDIN2	I	Serial data input 2
13	SDAD	O	Serial data output 2
14	SDOUT2	O	Serial data output 3
15	SDDA	I	Serial data input 3
16	SDDA2	I	Serial data input 4
17	SDOUT3	O	Serial data output 4
18	SDOUT1	O	Serial data output 1
19	SDIN1	I	Serial data input 1
20	SMODE	I	Interface clock select
21	BCLK	I/O	Clock input/output for serial data input signal input/output
22	LRCK	I/O	L/R channel identification signal input/output
23	CLK0	O	Master clock output
24	DVDD		Digital power supply
25	DVSS		Digital GND
26	XTI	I	Clock input
27	XTO	O	Oscillator output
28	TSTI2	I	CLKO output control
29	$\overline{\text{CS}}$	I	Chip select input for micro-computer interface
30	$\overline{\text{WRQ}}$	I	Command register reset input for micro-computer interface
31	DVSS		Digital GND
32	DVDD		Digital power supply
33	SCLK	I	Serial data input clock input for micro-computer interface
34	SI	I	Serial data input for micro-computer interface
35	WRDY	O	Data write ready output for micro-computer interface
36	DRDY	O	Output data ready output for micro-computer interface
37	SO	O	Serial data output for micro-computer interface
38	$\overline{\text{CASRF}}$	O	External DRAM CAS/pseudo SRAM refresh
39	$\overline{\text{RASCE}}$	O	External DRAM RAS/pseudo SRAM-ce
40	$\overline{\text{WE}}$	O	External SRAM/pseudo SRAM/DRAM write signal output
41-48	A16-A9	O	External RAM address output
49	DVSS		Digital GND
50	DVDD		Digital power supply
51-59	A8-A0	O	External RAM address output
60	$\overline{\text{OE}}$	O	External SRAM/pseudo SRAM/DRAM output enable signal output
61-68	IO0-IO7	I/O	External RAM data input/output
69	DVSS		Digital GND
70	DVDD		Digital power supply
71	DZFSET	I	Zero position detect setup
72	DVSS		Digital GND
73	DVDD		Digital power supply
74,75	DVB		Digital PCB power supply
76	DZF2	O	Zero input detect (DAC2)
77	DZF1	O	Zero input detect (DAC1)
78	NC		Not used
79	AVB		Analog PCB power supply
80	AOUTR2	O	DAC2 Rch analog output 2
81	AOUTL2	O	DAC2 Lch analog output 2
82	NC		Not used

Pin No.	Pin Name	I/O	Function and Operation
83	AOUTR1	O	DAC1 Rch analog output 1
84	AOUTL1	O	DAC1 Lch analog output 1
85	VRDAL	I	DAC reference voltage input
86	AVSS		Analog GND
87	AVDD		Analog power supply
88	VRDAH	I	DAC reference voltage input
89	NC		Not used
90	AINR-	I	ADC Rch analog inverted input
91	AINR+	I	ADC Rch analog input
92	AINL-	I	ADC Lch analog inverted input
93	AINL+	I	ADC Lch analog input
94	VCOM	O	Common voltage
95	VRADL	I	ADC reference voltage input
96	AVSS		Analog GND
97	AVDD		Analog power supply
98	VRADH	I	ADC reference voltage input
99	AVB		Analog PCB power supply
100	NC		Not used

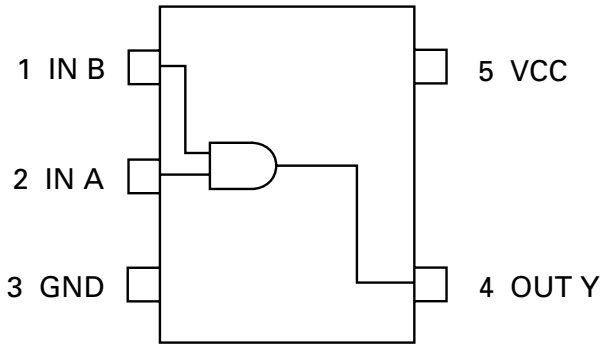
AK7712AVT



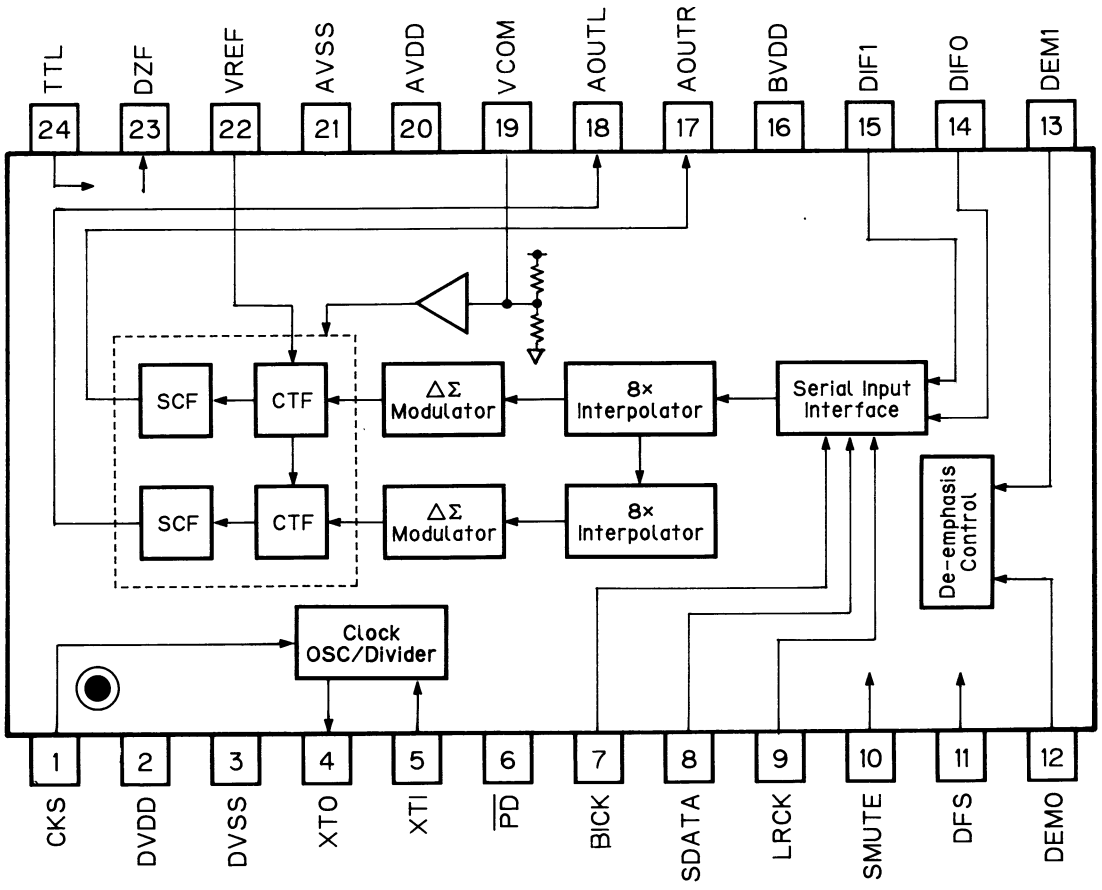
GGC1325(M5M51016BTP-70LL)



TC7S08FU



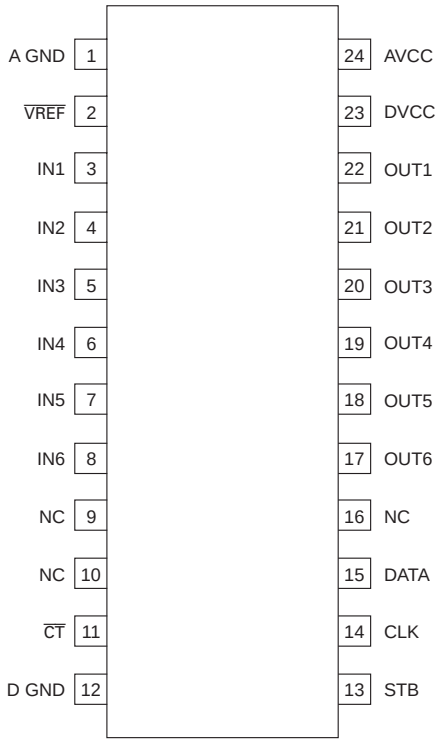
AK4321VF



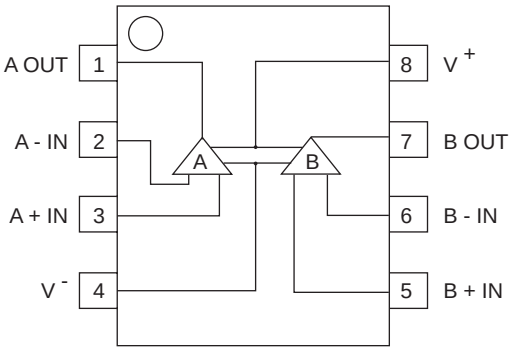
● Pin Functions (PM0017AM)

Pin No.	Pin Name	Function and Operation
1	AGND	Analog GND
2	$\overline{\text{VREF}}$	Reference voltage noise cut
3-8	IN1-6	CH1-6 input
9,10	NC	Not used
11	$\overline{\text{CT}}$	Terminal to set forced switching time
12	DGND	Digital GND
13	STB	Strobe input
14	CLK	Clock input
15	DATA	Data input
16	NC	Not used
17-22	OUT6-1	CH6-1 output
23	DVCC	Digital GND
24	AVCC	Analog GND

PM0017AM



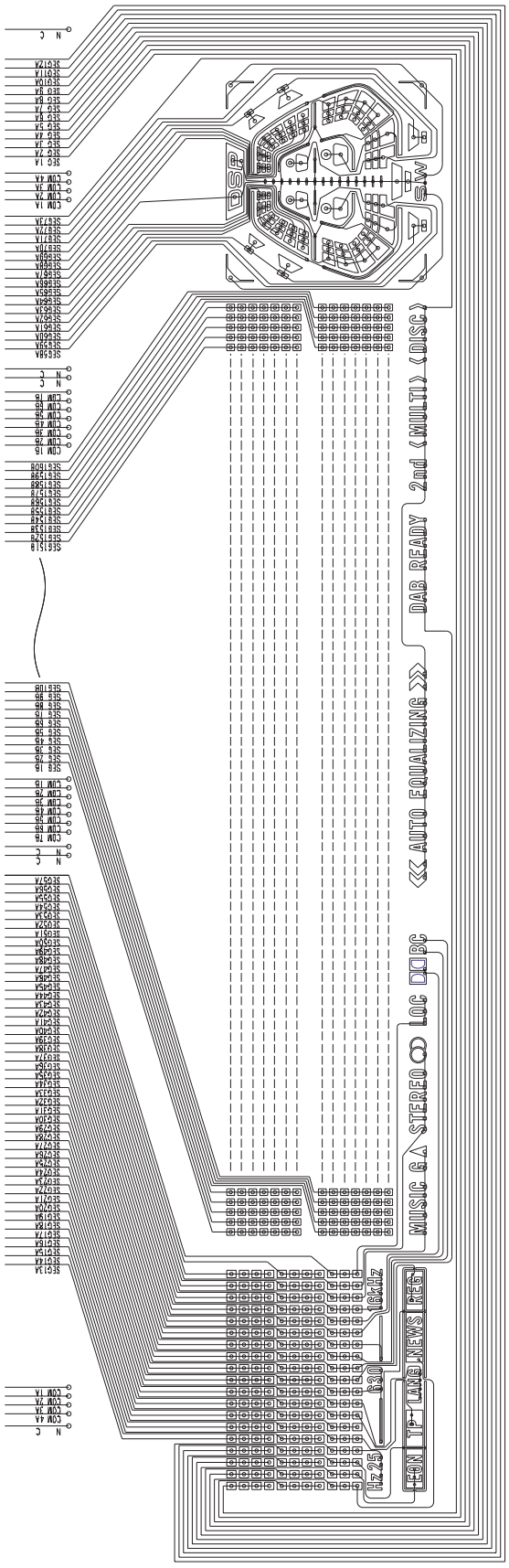
NJM4580M

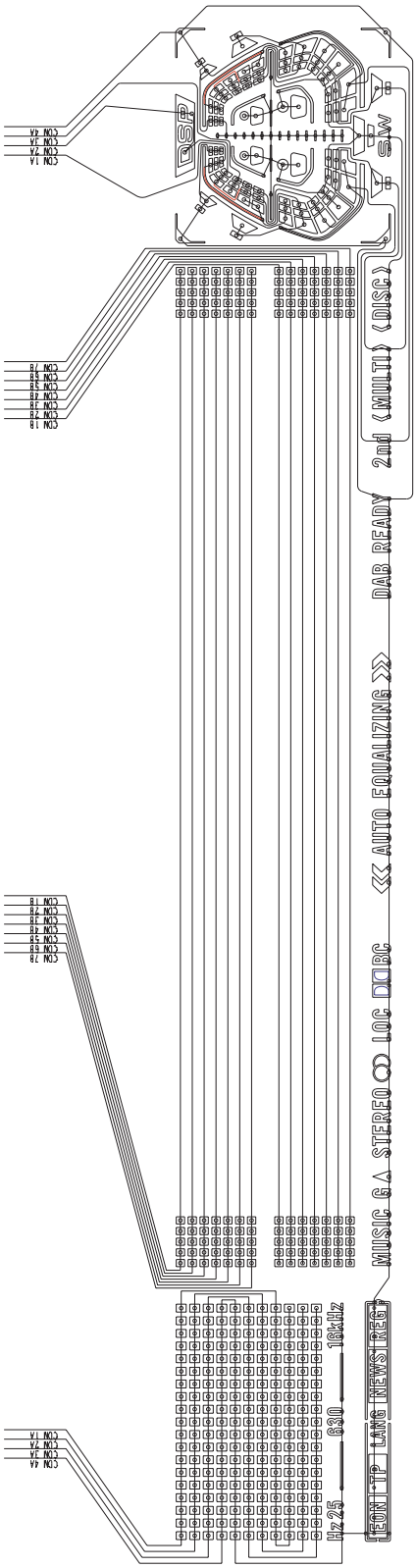


7.1.2 DISPLAY

● **CAW1471 (DEH-P945R/EW)**

● **CAW1493 (DEX-P99R/EW)**



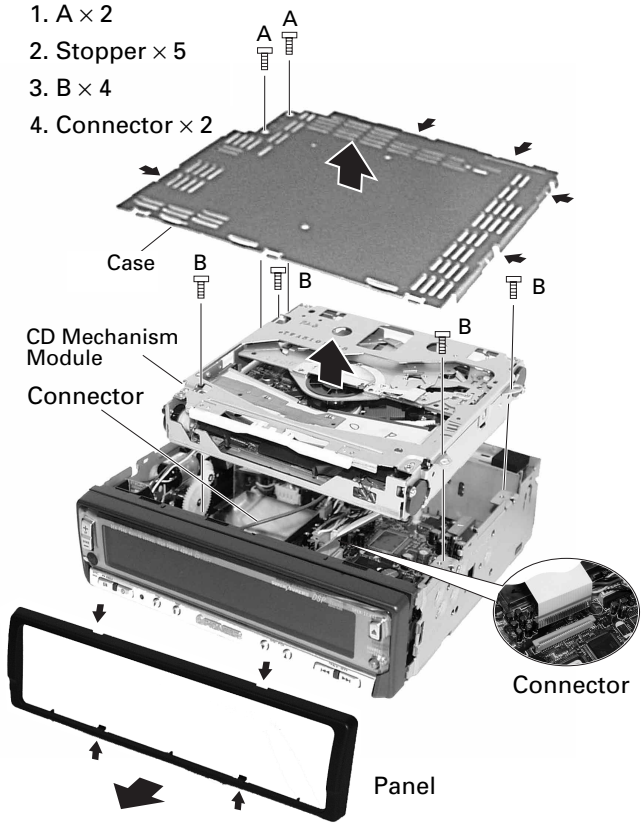


7.2 DIAGNOSIS

7.2.1 DISASSEMBLY

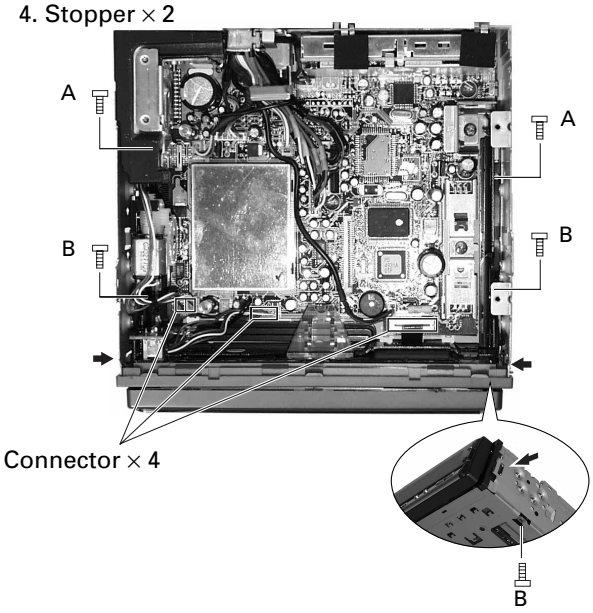
● Removing the Case,Panel and CD Mechanism Module

1. A × 2
2. Stopper × 5
3. B × 4
4. Connector × 2



● Removing the Panel Assy

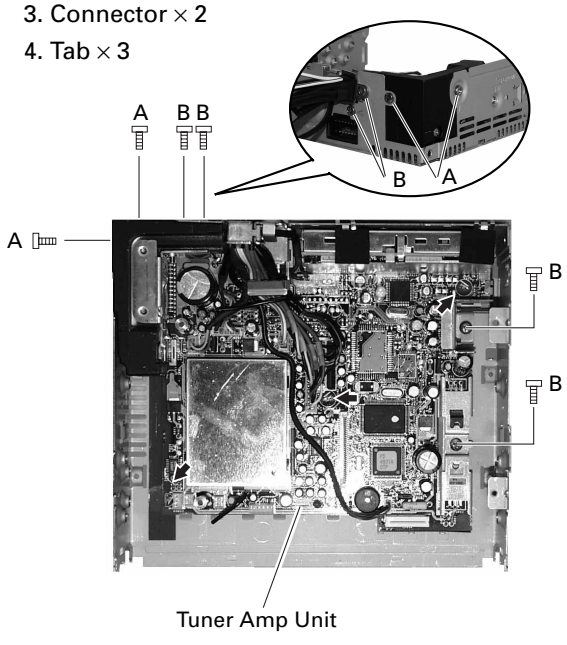
1. A × 2
2. B × 2
3. Connector × 4
4. Stopper × 2



Note : Remove the Screw B from outside the bottom.

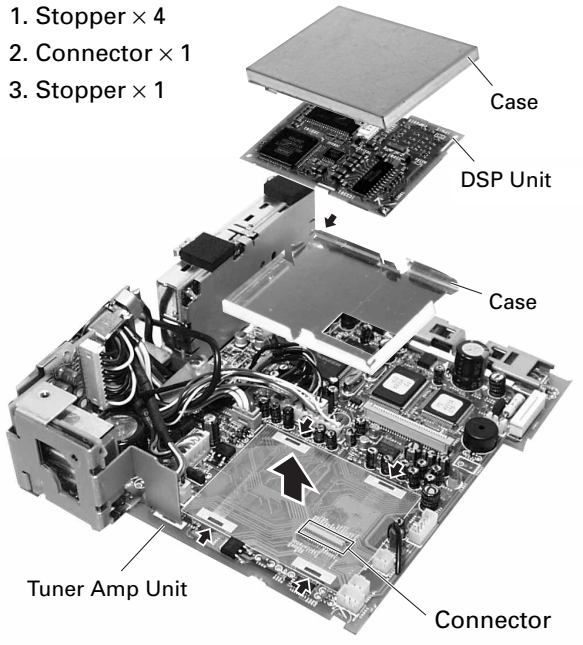
● Removing the Tuner Amp Unit

1. A × 2
2. B × 4
3. Connector × 2
4. Tab × 3



● Removing the DSP Unit

1. Stopper × 4
2. Connector × 1
3. Stopper × 1



Note : Each five place stopper are soldered.

7.2.2 TEST MODE

● CD Test Mode

1)Precautions

• This unit uses a single power supply (+5V) for the regulator. The signal reference potential, therefore, is connected to REFO(approx. 2.5V) instead of GND.
If REFO and GND are connected to each other by mistake during adjustments, not only will it be impossible to measure the potential correctly, but the servo will malfunction and a severe shock will be applied to the pick-up. To avoid this, take special note of the following.
Do not connect the negative probe of the measuring equipment to REFO and GND together. It is especially important not to connect the channel 1 negative probe of the oscilloscope to REFO with the channel 2 negative probe connected to GND.
Since the frame of the measuring instrument is usually at the same potential as the negative probe, change the frame of the measuring instrument to floating status.
If by accident REFO comes in contact with GND, immediately switch the regulator or power OFF.

• Always make sure the regulator is OFF when connecting and disconnecting the various filters and wiring required for measurements.

• Before proceeding to further adjustments and measurements after switching regulator ON, let the player run for about one minute to allow the circuits to stabilize.

• Since the protective systems in the unit's software are rendered inoperative in test mode, be very careful to avoid mechanical and /or electrical shocks to the system when making adjustment.

• Test mode starting procedure
Switch ACC, back-up ON while pressing the **TA** and **TR–** keys together.

• Test mode cancellation
Switch ACC, back-up OFF.

• Disc detection during loading and eject operations is performed by means of a photo transistor in this unit.Consequently, if the inside of the unit is exposed to a strong light source when the outer casing is removed for repairs or adjustment, the following malfunctions may occur.
*During PLAY, even if the eject button is pressed,the disc will not be ejected and the unit will remain in the PLAY mode.
*The unit will not load a disc.
When the unit malfunctions this way, either re-position the light source, move the unit or cover the photo transistor.

• When loading and unloading discs during adjustment procedures, always wait for the disc to be properly clamped or ejected before pressing another key. Otherwise, there is a risk of the actuator being destroyed.

• Turn power off when pressing the button TR+ or the button TR- key for focus search in the test mode. (Or else lens may stick and the actuator may be damaged.)

• SINGLE/4TRK/10TRK/32TRK will continue to operate even after the key is released.Tracking is closed the moment C-MOVE is released.

• JUMP MODE resets to SINGLE as soon as power is switched OFF.

● S-MD Test Mode

This mode is used by service personnel to solve problems when the mechanism is malfunctioned. Normally users do not enter S-MD Test mode.

(1) Test mode input

1) How to input

Input in the same manner as with inputting in Test mode of CDS, CDM, etc.

To enter Test mode, reset the system and set ACC to ON or connect the detach grill, then press xx and xx keys (see CD) simultaneously. Then, use the SOURCE key (or TAPE or SOURCE key on the remote control unit) to activate MDS source, and input in MDS Test mode.

Normally, the system does not change to MDS source when no disc is loaded. In Test mode, the system changes to MDS source without a disc loaded, and enters Test mode.

2) Beep sound

• With '97 autumn or later models, the system beeps to confirm that the system has entered Test mode.

(2) Canceling Test mode

1) Internal MDS (P-BUS)

• With '97 autumn or later models, reset the system, set ACC to OFF, BACKUP to OFF, or disconnect the detach grill to cancel Test mode. (Set ctestf to 0 if Clear RAM is called as preprocessing of standby.)

2) Slave MDS (IP-BUS)

In addition to the method mentioned in 1), Slave MDS must be reset, too.

(3) Effective keys in Test mode

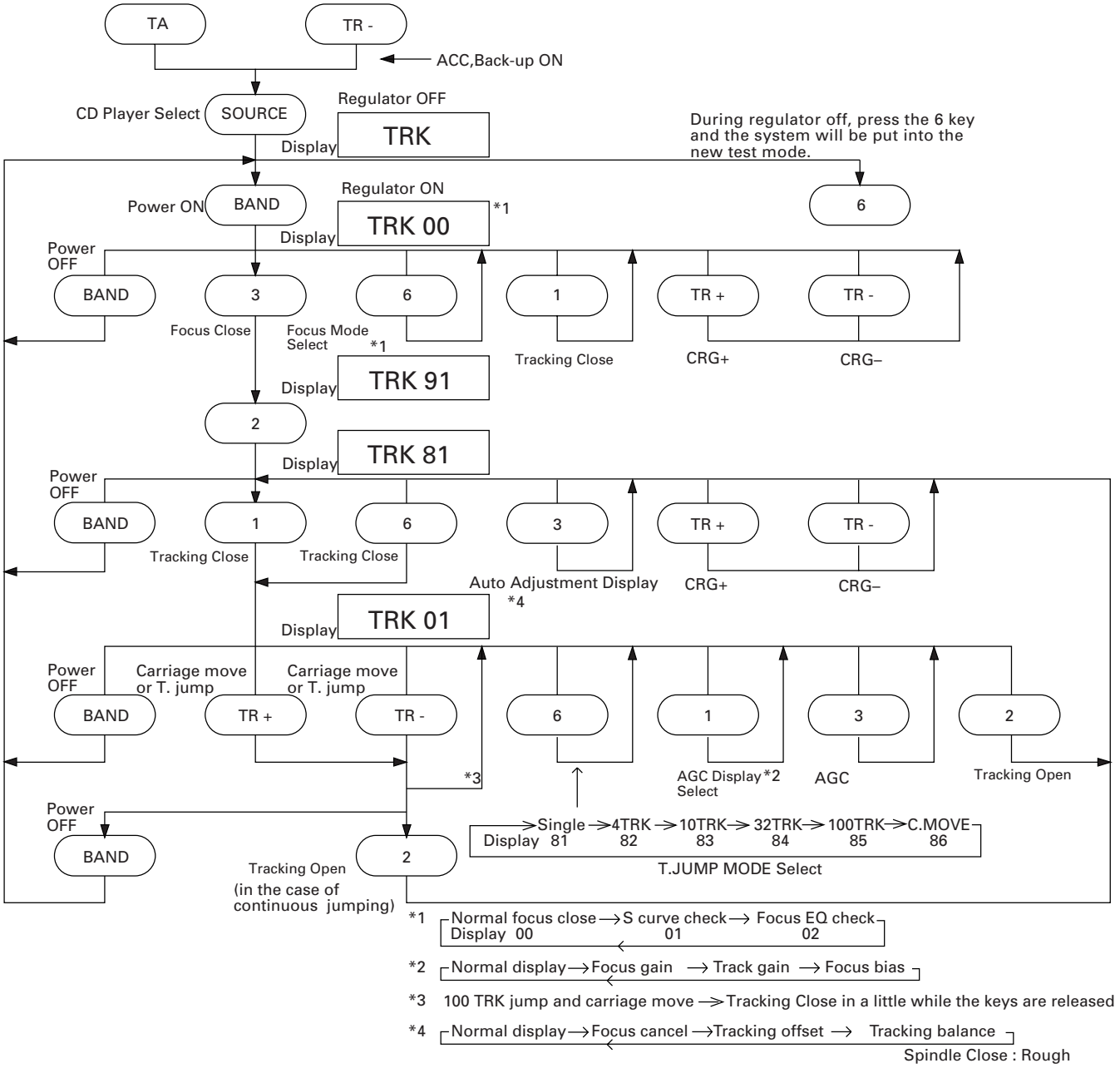
In Test mode, some keys require special key decoding.

Key name	Key operation
BAND	To turn the POWER ON/OFF
→	To move thread, jump, change set values, etc
←	To move thread, jump, change set values, etc
▲	To advance MENU
▼	To reverse MENU
PGM	To enter Test STOP mode
FUNCTION	To select a MENU
DISP	SRV mode (To change the disc type.)

Keys not provided on the main unit can be found on the remote control unit.

Operation specifications and details are in accordance with the specifications of MDS.

● Flow Chart



● SYSTEM Test Mode

Function	Operation Key · Trigger	Remarks	Display
Display Test Mode	Set Acc to ON or connect the detach grille, while pressing the S/A and → keys simultaneously. Then, press the S/A and → keys simultaneously, while the source is ON. To cancel Display Test Mode, press the Reset button.	Immediately after resetting the system	All LCDs light up.
TEST MODE	Set ACC to ON or connect the detach grille, while pressing the TA and ← keys simultaneously. To cancel Test Mode, set ACC to OFF or press the Reset button.	Immediately after resetting the system	

● Error Number Indication

The system enters error mode to display the cause of error with a number when the system cannot operate CD or stops operation because of an error. The purpose of this measure is to reduce frequency of calls from users asking help for problems that are caused by incorrect operation by user, as well as to assist analysis and repair in servicing.

(1) Basic means of display

- An error code will be written on DMIN (minute area for display) and DSEC (second area for display) when CSMOD (CD mode area for system) is SERBORM.
  The same data will be written on DMIN and DSEC.
  DTNO shall be blank as before.
- Display examples of the head unit
  Error codes will be displayed as shown below, depending on the capability of LCD. An error number will be displayed in the place of "xx."
- 8-digit display ERROR-XX
- 6-digit display ERR-XX or Err-XX
- 4-digit display E-XX

With OEM products, display of error codes shall be according to the specificatins of the manufacturer.

(2) Error codes

Error code	Classification	Description	Cause / Detail
10	ELECTRIC	Carriage home failure	Carriage doesn't move to or from the innermost position →Home switch failed and/or carriage immobile
11	ELECTRIC	Focus failure	Focus failed →Defects, disc upside-down, severe vibration
12	ELECTRIC	SETUP failure Subcode failure	Spindle failed to lock or subcode unreadable →Spindle defective, defect, severe vibration
14	ELECTRIC	Mirror failure	Unrecorded CD-R The disc is upside-down, defects, vibration
17	ELECTRIC	Set up failure	AGC protect failed →Defects, disc upside-down, severe vibration
19	ELECTRIC	Improper T.BAL adjustment	Value of T.BAL adjustment is out of parameter.
30	ELECTRIC	Search time out	Failed to reach target address →Carriage / tracking defective and/or defects
A0	SYSTEM	Power failure	Power overvoltage or short circuit detected →Switching transistor defective and/or power abnormal

(4) Number of error codes

One hundred error codes (00 to 99) will be available.

(5) Remarks

- Error codes are not displayed for the mechanism alone (because CD is OFF when an mechanical error is generated).
- When the system cannot read TOC, it is not deemed as an error, and the system continues operation to a certain extent.
- Be sure to take measures as shown in the display examples whenever designing a new head unit.
- The first digit of an error code has a meaning as follows:
  1X : Error related to setup
  3X : Error related to the search function
  AX : Other errors

● New Test Mode

When S-CD is specified as the source, basically the system plays as normal operation. After setup, the system displays the cause and time (absolute time) of an error if focus search is improper, spindle lock is removed, subcode cannot be read, or sound is skipped. During setup, the system displays the operation status of CD control software (internal RAM : CPOINT). The purpose of these displays and functions are to detect aging of servicing, as well as to improve efficiency of defect analysis.

(1) How to enter NEW TEST Mode

1. Reset the system by pressing keys (depending on the product) to enter the conventional Test mode.
2. Select S-CD as the source by pressing the source or CD key, then inserting a disc. Confirm that the regulator is OFF. Press the Switch Jump Mode key.
3. After that, the system will stay in the new Test mode, regardless of whether S-CD is OFF or ON.

To exit from the new Test mode, reset the system.

See the test mode flow chart Page 104.

(2) Relations of keys

keys	Test Mode		New Test Mode	
	Regulator OFF	Regulator ON	PLAY in progress	Error Protection
BAND	To Regulator ON	To Regulator OFF	—	Time / Err No.select
TR+	—	FWD-Kick	FF / TR+	—
TR-	—	REV-Kick	REV / TR-	—
1	—	Tracking Close	Scan	—
2	—	Tracking Open	RPT	—
3	—	Focus Close	RDM	—
—	—	Focus Open	—	—
—	—	Jump Off	—	—
6	To New Test Mode	Jump Mode select	Auto / Manu	T.No. / Time select

Operations, such as EJECT, CD ON/OFF are performed normal mode.

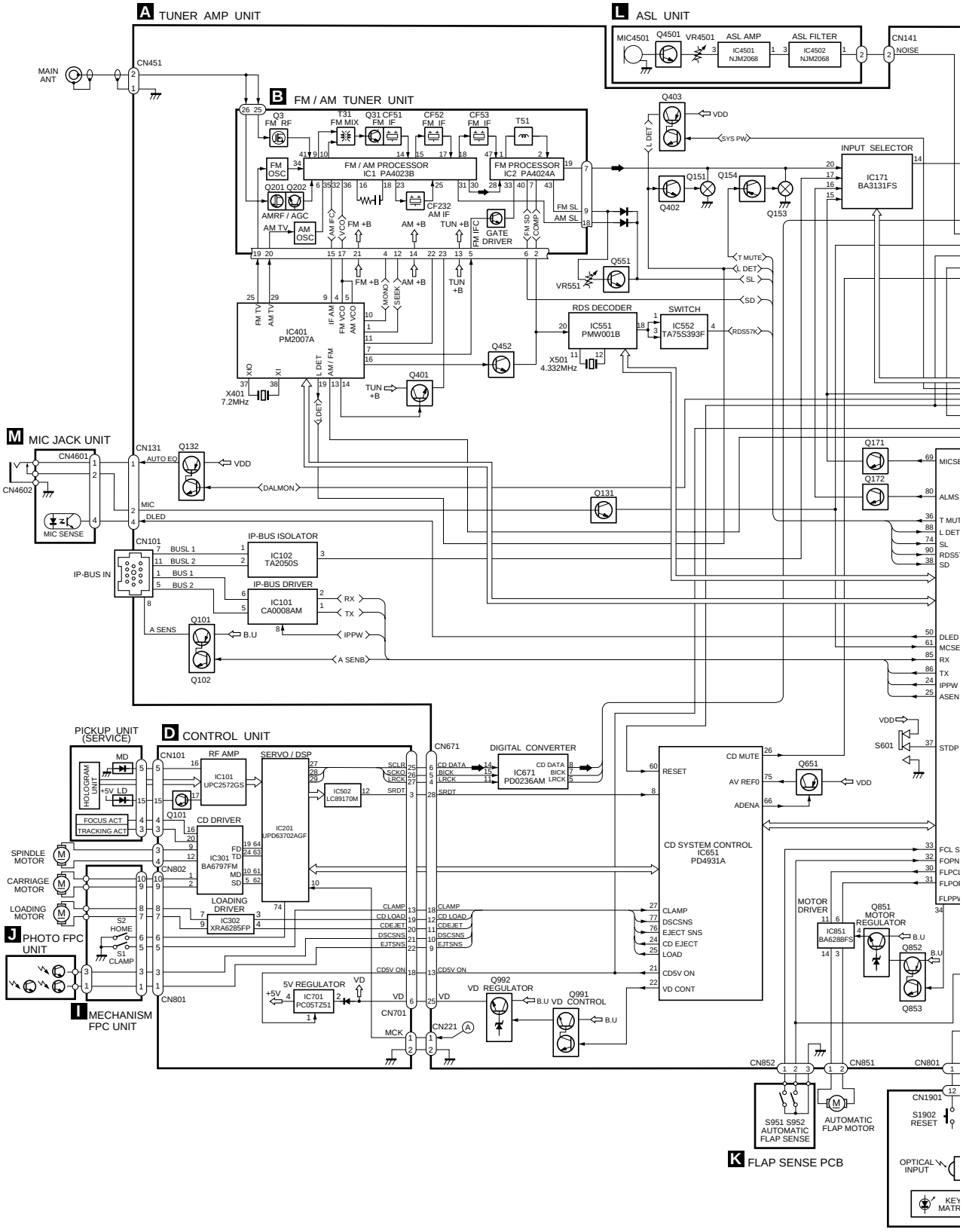
(3) Error Cause, Error Code

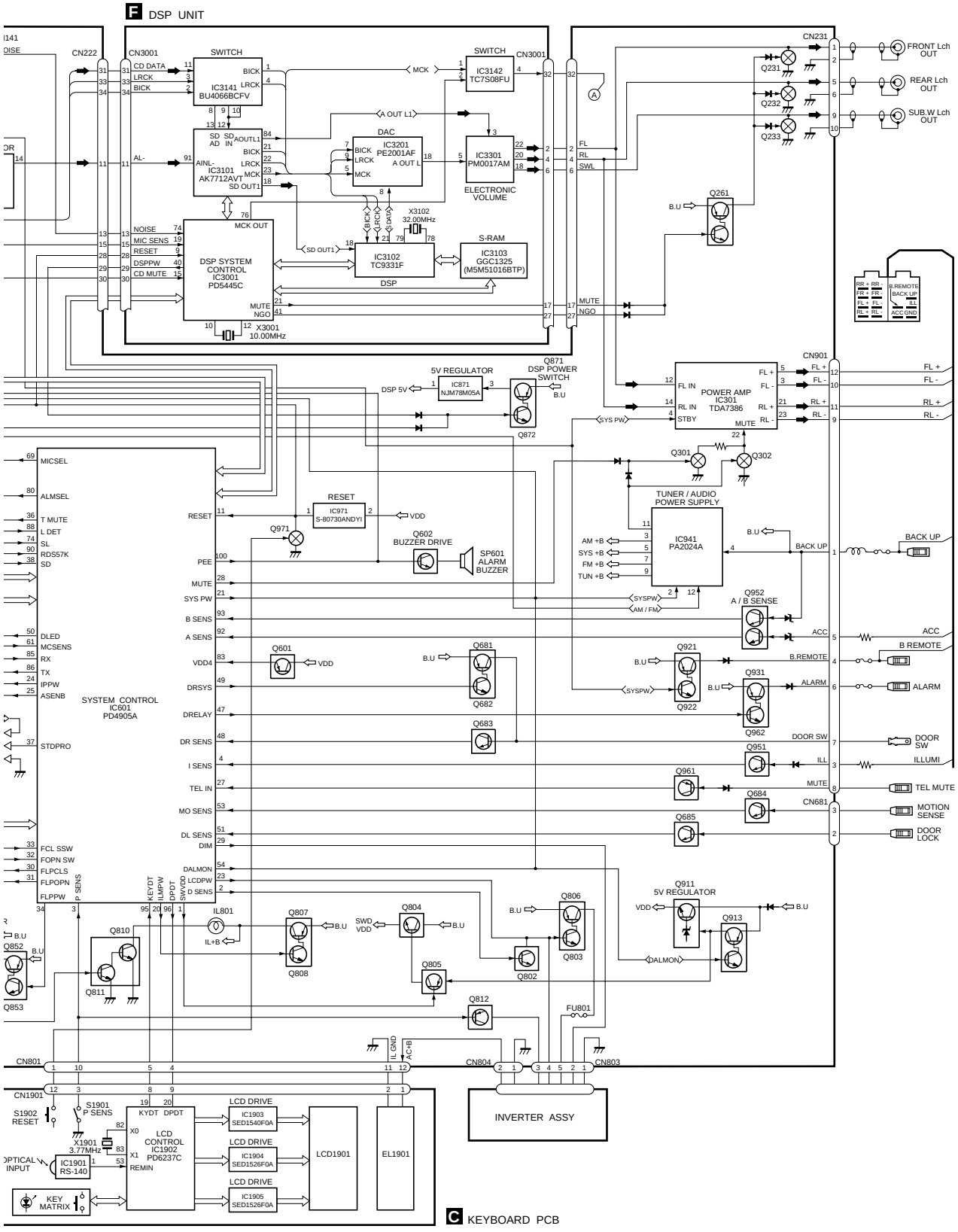
Code	Classification	Description	Cause / Details
40	ELECTRIC	Put out of focus	FOK=Low has continued for 100 msec →Damaged or soiled disc. vibration, or detective servo
41	ELECTRIC	Spindle unlock	LOCK=has continued for 100 msec →Damaged or soiled disc. vibration, or detective servo
42	ELECTRIC	Failed to read subcode	The system could not read subcode for 100 msec →Damaged or soiled disc. vibration, or detective servo
43	ELECTRIC	Sound skipped	The last-address-memory function activated →Damaged or soiled disc. vibration, or detective servo

There will be no mechanical error during aging. Error codes should be displayed in the same manner as in Normal mode.

7.3 BLOCK DIAGRAM

● DEH-P945R/EW

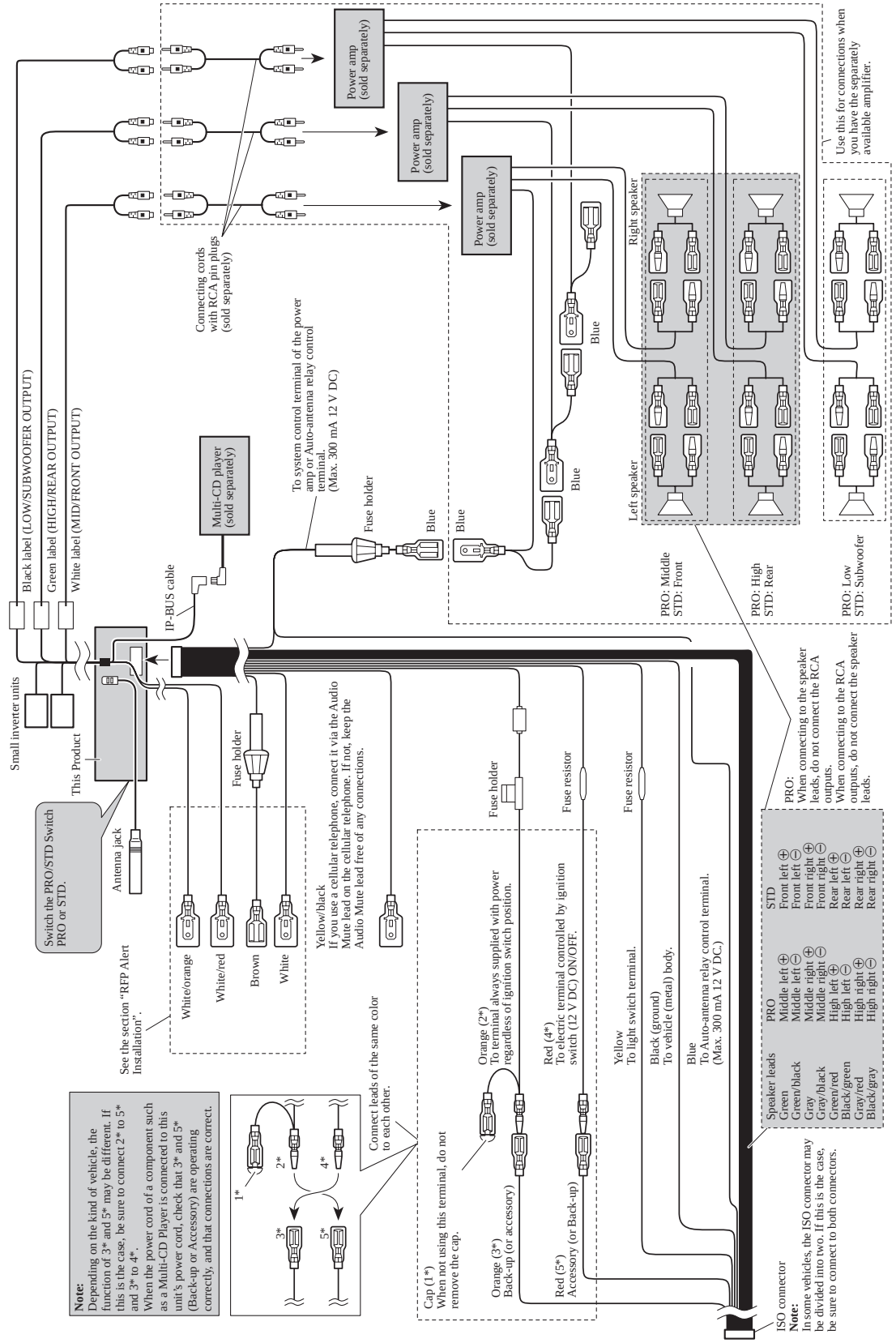



F DSP UNIT
CN222
CN3001
SWITCH
IC3141
BU4066BCFV
CD DATA
LRCK
BICK
MCK
IC3142
TC7S08FU
A OUT L1
DAC
IC3201
PE2001AF
IC3101
AK7712AVT
AINL-
AL-
SD OUT1
IC3301
PM0017AM
ELECTRONIC
VOLUME
FL
RL
SWL
CN231
FRONT Lch
OUT
REAR Lch
OUT
SUB.W Lch
OUT
Q231
Q232
Q233
Q261
B.U
NOISE
MIC SENS
RESET
DSPPW
CD MUTE
DSP SYSTEM
CONTROL
IC3001
PD5445C
MCK OUT
MUTE
NGO
X3001
10.00MHz
X3102
32.00MHz
IC3102
TC9331F
DSP
S-RAM
IC3103
GGC1325
(M5M51016BTP)
5V REGULATOR
IC871
NJM78M05A
DSP 5V
Q871
DSP POWER
SWITCH
Q872
POWER AMP
IC301
TDA7386
FL IN
RL IN
STBY
SYS PW
CN901
FL +
FL -
RL +
RL -
Q301
Q302
TUNER / AUDIO
POWER SUPPLY
IC941
PA2024A
AM +B
SYS +B
FM +B
TUN +B
SYSPW
AM / FM
BACK UP
RESET
IC971
S-80730ANDYI
VDD
Q971
Q602
BUZZER DRIVE
SP601
ALARM
BUZZER
SYSTEM CONTROL
IC601
PD4905A
MICSEL
ALMSEL
T MUTE
L DET
SL
RDS57K
SD
PEE
MUTE
SYS PW
B SENS
A SENS
VDD4
DRSYS
DRELAY
DR SENS
I SENS
TEL IN
MO SENS
DL SENS
DIM
DALMON
LCDPW
D SENS
DLED
MCSENS
RX
TX
IPPW
ASENB
STDPRO
FCL SSW
FOPN SW
FLPCLS
FLPOPN
FLPPW
P SENS
KEYDT
ILMPW
DPDT
SWVDD
Q601
Q681
Q682
Q683
Q921
Q922
Q931
Q962
Q951
Q961
Q684
Q685
Q952
A / B SENSE
ACC
B REMOTE
ALARM
DOOR SW
ILLUMI
TEL MUTE
MOTION
SENSE
DOOR
LOCK
CN681
Q911
5V REGULATOR
Q913
Q806
Q803
Q804
Q805
Q802
Q807
Q808
Q810
Q811
Q812
IL801
IL+B
Q852
Q853
FU801
IL GND
AC+B
CN801
CN804
CN803
CN1901
S1902
RESET
S1901
P SENS
X1901
3.77MHz
IC1901
RS-140
OPTICAL
INPUT
KEY
MATRIX
KYDT DPDT
LCD
CONTROL
IC1902
PD6237C
REMIN
LCD DRIVE
IC1903
SED1540F0A
IC1904
SED1526F0A
IC1905
SED1526F0A
LCD1901
EL1901
INVERTER ASSY
C KEYBOARD PCB

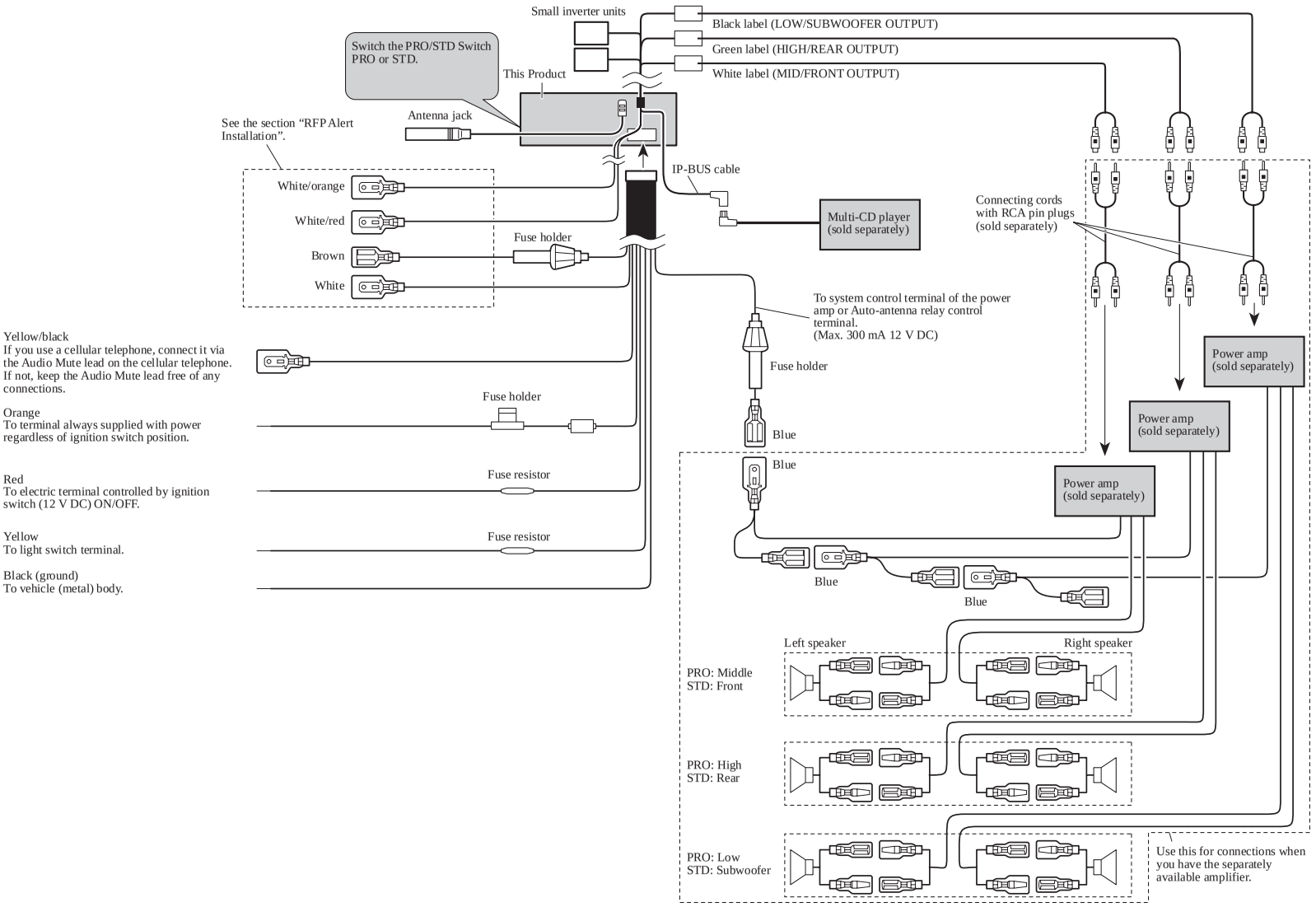
8. OPERATIONS AND SPECIFICATIONS

8.1 OPERATIONS

● **Connection Diagram (DEH-P945R/EW)**

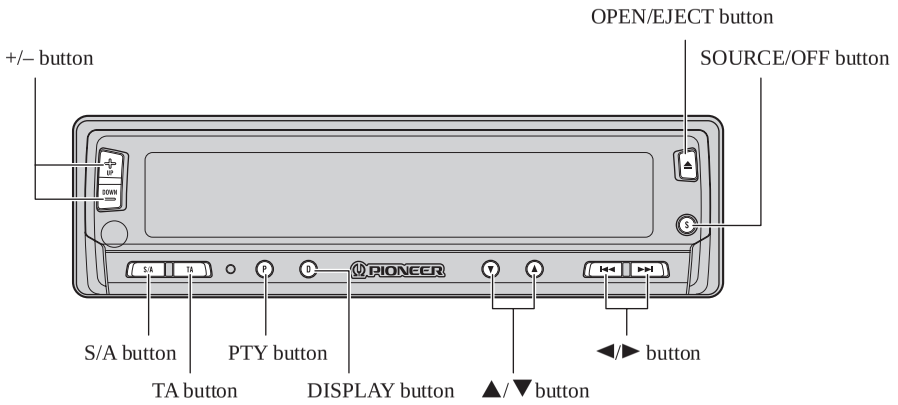

Black label (LOW/SUBWOOFER OUTPUT)
Green label (HIGH/REAR OUTPUT)
White label (MID/FRONT OUTPUT)
Connecting cords with RCA pin plugs (sold separately)
Power amp (sold separately)
Power amp (sold separately)
Power amp (sold separately)
Use this for connections when you have the separately available amplifier.
Multi-CD player (sold separately)
To system control terminal of the power amp or Auto-antenna relay control terminal. (Max. 300 mA 12 V DC)
Fuse holder
Blue
Blue
Blue
Blue
Right speaker
Left speaker
PRO: Middle
STD: Front
PRO: High
STD: Rear
PRO: Low
STD: Subwoofer
IP-BUS cable
Small inverter units
This Product
Switch the PRO/STD Switch PRO or STD.
Antenna jack
See the section "RFP Alert Installation".
White/orange
White/red
Brown
White
Fuse holder
Yellow/black
If you use a cellular telephone, connect it via the Audio Mute lead on the cellular telephone. If not, keep the Audio Mute lead free of any connections.
Connect leads of the same color to each other.
Fuse holder
Fuse resistor
Fuse resistor
Orange (2*)
To terminal always supplied with power regardless of ignition switch position.
Red (4*)
To electric terminal controlled by ignition switch (12 V DC) ON/OFF.
Yellow
To light switch terminal.
Black (ground)
To vehicle (metal) body.
Blue
To Auto-antenna relay control terminal. (Max. 300 mA 12 V DC.)
PRO:
When connecting to the speaker leads, do not connect the RCA outputs.
When connecting to the RCA outputs, do not connect the speaker leads.
Speaker leads
Green
Green/black
Gray
Gray/black
Green/red
Black/green
Gray/red
Black/gray
PRO
Middle left ⊕
Middle left ⊖
Middle right ⊕
Middle right ⊖
High left ⊕
High left ⊖
High right ⊕
High right ⊖
STD
Front left ⊕
Front left ⊖
Front right ⊕
Front right ⊖
Rear left ⊕
Rear left ⊖
Rear right ⊕
Rear right ⊖
Cap (1*)
When not using this terminal, do not remove the cap.
Orange (3*)
Back-up (or accessory)
Red (5*)
Accessory (or Back-up)
ISO connector
Note:
In some vehicles, the ISO connector may be divided into two. If this is the case, be sure to connect to both connectors.
Note:
Depending on the kind of vehicle, the function of 3* and 5* may be different. If this is the case, be sure to connect 2* to 5* and 3* to 4*.
When the power cord of a component such as a Multi-CD Player is connected to this unit's power cord, check that 3* and 5* (Back-up or Accessory) are operating correctly, and that connections are correct.
1*
2*
3*
4*
5*

● Connection Diagram (DEX-P99R/EW)

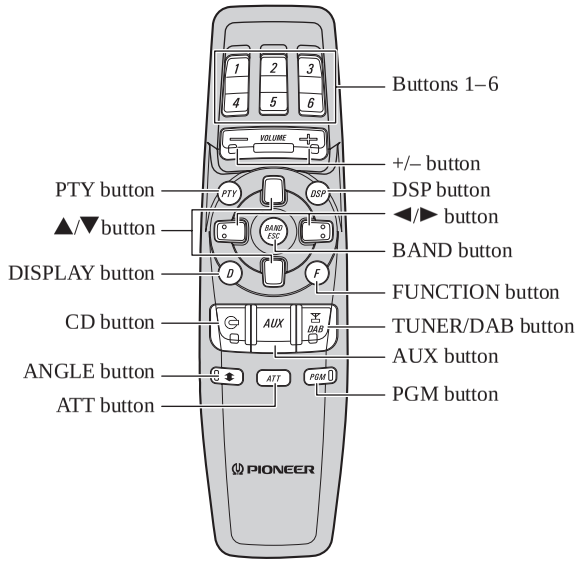

Small inverter units
Black label (LOW/SUBWOOFER OUTPUT)
Green label (HIGH/REAR OUTPUT)
White label (MID/FRONT OUTPUT)
Switch the PRO/STD Switch PRO or STD.
This Product
Antenna jack
See the section "RFP Alert Installation".
IP-BUS cable
Multi-CD player (sold separately)
Connecting cords with RCA pin plugs (sold separately)
White/orange
White/red
Brown
White
Fuse holder
To system control terminal of the power amp or Auto-antenna relay control terminal. (Max. 300 mA 12 V DC)
Fuse holder
Blue
Power amp (sold separately)
Power amp (sold separately)
Power amp (sold separately)
Yellow/black
If you use a cellular telephone, connect it via the Audio Mute lead on the cellular telephone. If not, keep the Audio Mute lead free of any connections.
Fuse holder
Orange
To terminal always supplied with power regardless of ignition switch position.
Red
To electric terminal controlled by ignition switch (12 V DC) ON/OFF.
Fuse resistor
Yellow
To light switch terminal.
Fuse resistor
Black (ground)
To vehicle (metal) body.
Blue
Blue
Left speaker
Right speaker
PRO: Middle
STD: Front
PRO: High
STD: Rear
PRO: Low
STD: Subwoofer
Use this for connections when you have the separately available amplifier.

Key Finder

Head Unit

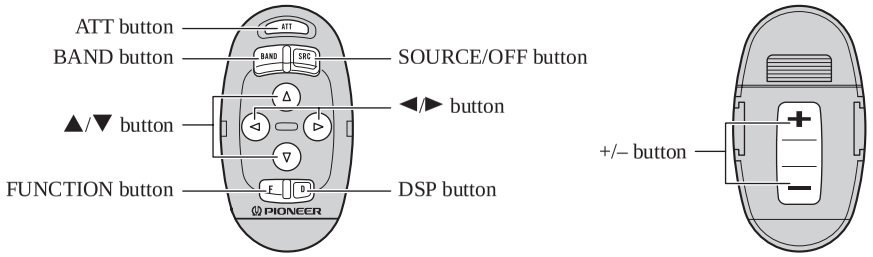


Remote Controller



Steering Remote Controller

Buttons on the remote controller or head unit with the same name have the same function.

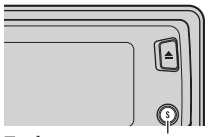


Tuner Operation

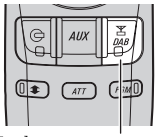
This product's AF function can be switched ON and OFF. AF should be switched OFF for normal tuning operations.

Basic Operation of Tuner

1. Select Tuner.



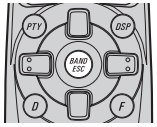
Each press changes the Source ...

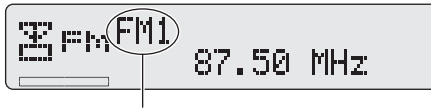


Each press changes the Source ...

The program service name or frequency appears on the display.

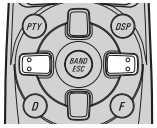
2. Select the desired band.

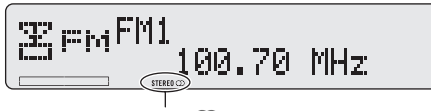




FM1 → FM2 → FM3 → MW/LW

3. Tune the receiver to a higher or lower frequency.





"STEREO ◯◯"

This product's tuner lets you select the tuning by changing the length of the time you press the button.

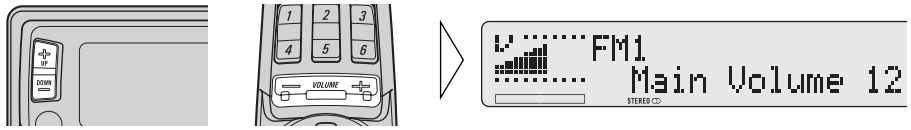
Manual Tuning (step by step)	0.3 seconds or less
Seek Tuning (automatically)	0.3–2 seconds
Manual Tuning (continuously)	2 seconds or more

Note:

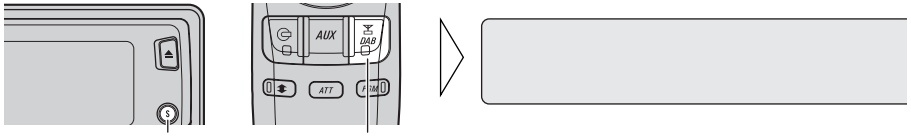
- "STEREO ◯◯" indicator lights when a stereo station is selected.
- To select a weak broadcasting station that cannot be tuned in with the Seek Tuning function, tune in with Manual Tuning.

Tuner Operation

4. **Raise or lower the volume.**



5. **Turn the source OFF.**



Hold for 1 second

Each press changes the Source ...

Entering the Function Menu

In this menu you can select tuner functions.

- **Select the desired mode in the Function Menu.**

Each press changes the Mode ...

Each press of the FUNCTION button selects the mode in the following order:

BSM → Regional* → Local → TA* → AF*

* Regional, TA and AF are RDS functions for FM bands. You cannot switch to these modes when selecting MW or LW band. Refer to “Using the RDS Functions” for details and instructions on how to use these functions.

To cancel the Function Menu, press the BAND button.

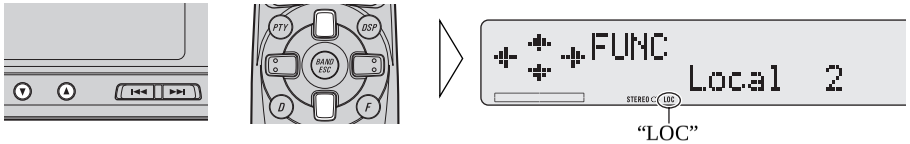
Note:

- After entering the Function Menu, if you do not perform an operation within about 30 seconds, the Function Menu is automatically canceled.

Local Seek Tuning

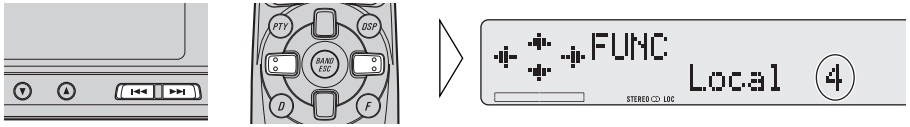
This mode selects only stations with especially strong signals.

1. **Select the Local mode (Local) in the Function Menu.**
2. **Switch the Local mode ON or OFF.**



“LOC”

3. **Select the desired Local Seek sensitivity.**



FM : Local 1 ↔ Local 2 ↔ Local 3 ↔ Local 4
MW/LW : Local 1 ↔ Local 2

Note:

- The “Local 4” setting allows reception of only the strongest stations, while lower settings let you receive progressively weaker stations.

To cancel the Function Menu, press the BAND button.

Using the RDS Functions

What is RDS?

RDS (Radio Data System) is a system for transmitting data along with FM programs. This data, which is inaudible, provides a variety of features such as: program service name, program type display, traffic announcement standby, automatic tuning and program type tuning, intended to aid radio listeners in tuning to a desired station.

Note:
- RDS service may not be provided by all stations.
- RDS functions, like AF (Alternative Frequencies search) and TA (Traffic Announcement standby), are only active when your radio is tuned to RDS stations.

Switching the Frequency Display

This unit displays the names (Program Service Name) of networks/stations providing RDS Services and PTY Information. You can also switch from Program Service Name display to frequency display.

- **When you want to know the frequency of the current station, change the display.**

Each press
changes the Display ...

Note:
- After switching displays, if you do not perform an operation within 8 seconds, the Program Service Name is automatically displayed.

PTY Information

PTY (Program Type ID code) information for the currently tuned station appears on the display.

Frequency

The frequency of the current station appears on the display.

AF Function

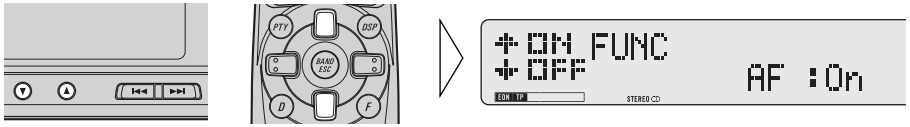
The AF (Alternative Frequencies search) function is used to search for other frequencies in the same network as the currently tuned station. It automatically retunes the receiver to another frequency in the network which is broadcasting a stronger signal when there are problems with reception of the currently tuned station or better reception is possible on a different frequency.

Note:
- AF tunes the receiver only to RDS stations when you use Seek tuning or BSM Auto Memory with the AF Function ON.
- When you recall a preset station, the tuner may update the preset station with a new frequency from the station's AF list. (This is only available when using presets on the FM1 band.) No preset number appears on the display if the RDS data for the station received differs from that for the originally stored station.
- Sound may be temporarily interrupted by another program during an AF frequency search.
- When the tuner is tuned to a non-RDS station, the "AF" indicator flashes. (You can confirm by switching to the Status display.)
- AF can be switched ON or OFF independently for each FM band.

Activating/Deactivating the AF Function

AF is set to ON by default.

1. **Select the AF mode (AF) in the Function Menu.**
2. **Activate or deactivate AF while in an FM band.**



To cancel the Function Menu, press the BAND button.

Using the RDS Functions

PI Seek Function

The tuner searches for another frequency broadcasting the same programming. “Seek” appears on the display and the radio volume is muted during a PI Seek. The muting is discontinued after completion of the PI Seek, whether or not the PI seek was successful. If the PI Seek is unsuccessful, the tuner returns to the previous frequency.

PI Seek

If the tuner fails to locate a suitable alternative frequency or if the broadcasting signal is too weak for proper reception, the PI Seek will automatically start.

Auto PI Seek (for preset station)

When preset stations cannot be recalled, as when traveling long distances, the product can be set to perform PI Seek also during preset recall.
The default setting for Auto PI Seek is OFF.

Note:
- Refer to “Initial Setting” for details on how to switch Auto PI Seek ON/OFF.

Regional Function

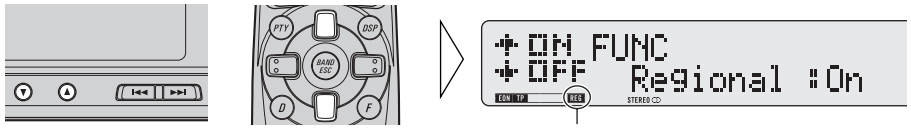
When AF is used to retune the tuner automatically, Regional (Regional) limits the selection to stations broadcasting regional programs.

Note:
- Regional programming and regional networks are organized differently depending on the country (i.e., they may change according to the hour, state or broadcast area).
- The preset number may disappear on the display if the tuner tunes in a regional station which differs from the originally set station.

Activating the Regional Function

The Regional function can be turned ON independently for each FM band.

1. **Select the Regional mode (Regional) in the Function Menu.**
2. **Activate or deactivate Regional while in an FM band.**



To cancel the Function Menu, press the BAND button.

TA Function

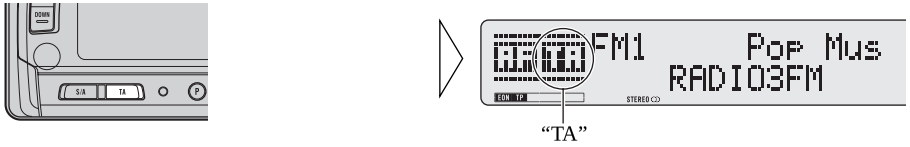
The TA (Traffic Announcement standby) function lets you receive traffic announcements automatically, no matter what source (tuner, built-in CD player or multi-CD player) you are listening to. The TA function can be activated for either a TP station (a station that broadcasts traffic information) or an EON TP station (a station carrying information which cross-references TP stations).

Activating/Deactivating the TA Function

1. **Tune in a TP or EON TP station.**

   The “TP” indicator lights when the tuner is tuned to a TP station, and both the “EON” and “TP” indicators light when it is tuned to an EON TP station.

2. **Activate the TA function.**



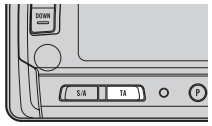
The “TA” indicator lights, indicating that the tuner is waiting for traffic announcements.

Repeat the preceding operation when no traffic announcement is being received to deactivate the TA function.

Note:
- You can also switch the TA Function ON/OFF in the Function Menu.
- The system switches back to the original source following traffic announcement reception.
- The TA function can be activated from the built-in CD player or multi-CD player mode if the tuner was last set to the FM band but not if it was last set to the MW/LW band.
- If the tuner was last set to FM, turning on the TA function lets you operate other tuning functions while listening to a CD.
- Only TP or EON TP stations are tuned in during the Seek Tuning mode when the “TA” indicator is ON.
- Only TP or EON TP stations are stored by BSM when the “TA” indicator is ON.

Canceling Traffic Announcements

- **Press the TA button while a traffic announcement is being received to cancel the announcement and return to the original source.**

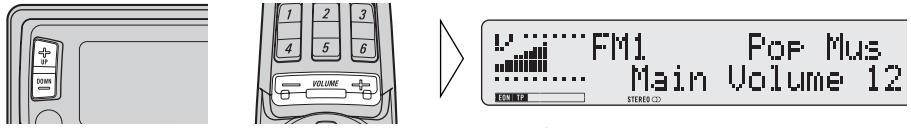


The announcement is canceled but the tuner remains in the TA mode until the TA button is pressed again.

Adjusting the TA Volume

When a traffic announcement begins, the volume adjusts automatically to a preset level to enable you to hear the announcement clearly.

- **Set the volume by adjusting it during reception of a traffic announcement.**



The newly set volume is stored in memory and recalled for subsequent traffic announcements.

TP Alarm Function

About 30 seconds after the “TP” or “EON” indicator is extinguished due to a weak signal, a 5 second beep sounds to remind you to select another TP or EON TP station.

- **If you are listening to the tuner, tune in another TP station or EON TP station.**

  In the built-in CD player or multi-CD player mode, the tuner automatically seeks out the TP station with the strongest signal in the current area 10 (or 30)* seconds after “TP” disappears from the display.

*** Time taken before Seek begins.**

TA Function ON	10 seconds
TA, AF Functions ON	30 seconds

PTY Function

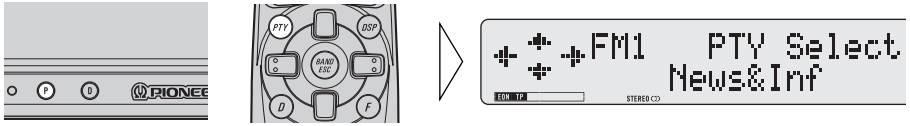
With Wide and Narrow classification of program type, the PTY function provides two ways to select stations by the type of program being broadcast (PTY Search). It also provides automatic tuning to emergency broadcasts (PTY Alarm).

Note:

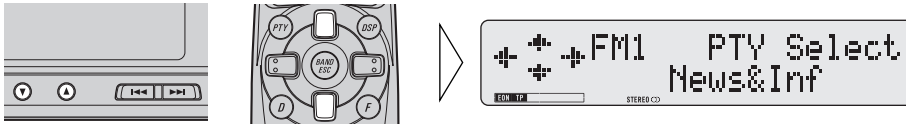
- There’s no need to perform PTY Search settings again if they have previously been set. After switching to the PTY Search Setting mode in Step 1, just perform PTY Search in Step 4.

Searching the PTY

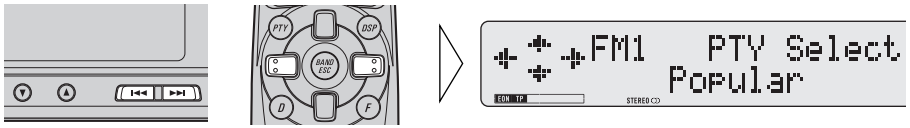
1. **Select the PTY Search Setting mode.**



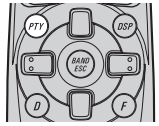
2. **Select the PTY Search method (Wide, Narrow).**



3. **Select one from among the PTY.**



4. Start PTY Search.



The tuner searches for a station broadcasting the desired PTY.

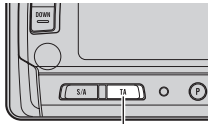
To cancel the PTY Search Setting mode, hold down the PTY button for 2 seconds or more.

Note:
- If a PTY code of zero is received from a station, “NONE” will be displayed. This indicates that the station has not defined its program contents.
- If the signal is too weak for this product to pick up the PTY code, “NO PTY” will be displayed.
- The program of some stations may differ from that indicated by the transmitted PTY.
- If no station broadcasting the selected programming type is found, “NOT FOUND” is displayed for about 2 seconds, and the tuner returns to the original station.

News Program Interruption Setting

You can switch automatic reception of PTY code news programs ON/OFF. When a received news program ends, reception of the previous program resumes.

- **Set interruption to ON or OFF.**



Hold for 2 seconds

“NEWS”

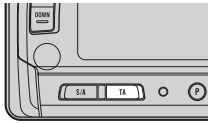
PTY Alarm

PTY Alarm is a special PTY code for announcements regarding emergencies such as natural disasters. When the tuner receives the radio alarm code, “ALARM” appears on the display and the volume adjusts to the TA volume. When the station stops broadcasting the emergency announcement, the system returns to the previous source.

Note:
- The system switches back to the original source following emergency announcement reception.

Canceling Emergency Announcements

- **Press the TA button during emergency announcement reception to cancel the announcement and return to the previous source.**



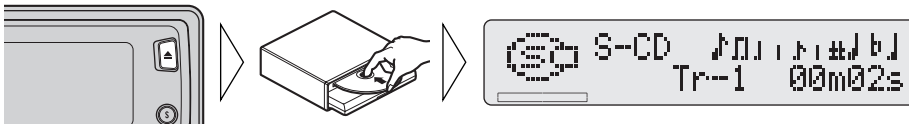
PTY List

Wide	Narrow	Details
News and Inf	News	News.
	Weather	Weather reports/Meteorological information.
	Affairs	Current affairs.
	Sport	Sports programs.
	Finance	Stock market reports, commerce, trading etc.
	Inf	General information and advice.
Popular	Pop Mus	Popular music.
	Rock Mus	Contemporary modern music.
	Easy Mus	Easy listening music.
	Jazz	Jazz music based programs.
	Oldies	Oldies music, ‘Golden age’ based programs.
	Folk Mus	Folk music based programs.
	Country	Country music based programs.
	Nat Mus	National music based programs.
	Oth Mus	Other types of music, which can’t be categorized.
Classics	L. Class	Light classical music.
	Classic	Serious classical music.
Others	Phone In	Phone in based programs.
	Drama	All radio plays and serials.
	Document	Documentary programs.
	Varied	Light entertainment programs.
	Children	Children’s programs.
	Touring	Travel programs, not for announcements about traffic problem.
	Leisure	Programs about hobbies and recreational activities.
	Culture	Programs concerned with any aspect of national or regional culture.
	Religion	Religion affairs programs or services.
	Educate	Educational programs.
	Science	Programs about nature, science and technology.
	Social	Social affairs programs.

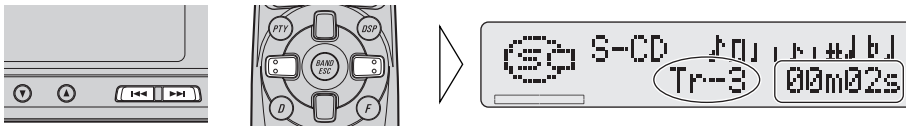
Basic Operation of the Built-in CD Player

The built-in CD player plays one standard 12 cm or 8 cm (single) CD at a time. Do not use an adapter when playing an 8 cm CD.

1. Open the front panel and insert the disc with the label side up.



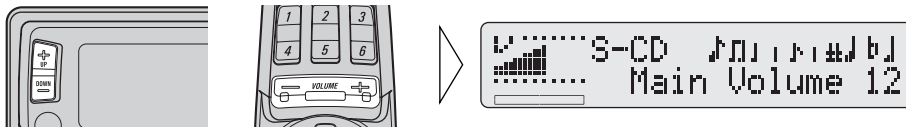
2. Select the desired track (or fast-forward/reverse, per the chart below).



This product’s built-in CD player lets you select the Track Search function or Fast-forward/Reverse function by changing the length of time you press the button.

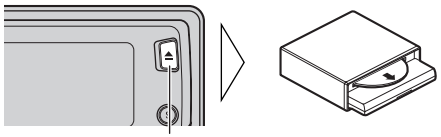
Track Search	0.5 seconds or less
Fast-forward/Reverse	Continue pressing

3. Raise or lower the volume.



Using the Built-in CD Player

4. **Remove the disc.**



Hold for 2 seconds

Be sure to close the front panel after removing the disc.

Note:
- The CD function can be turned ON/OFF with the disc remaining in this product.
- Discs left partially inserted after ejection may incur damage or fall out.
- If a disc cannot be inserted fully or playback fails, make sure the recorded side is down, hold down the OPEN/EJECT button for 2 seconds or more and check the disc for damage before reinserting it.

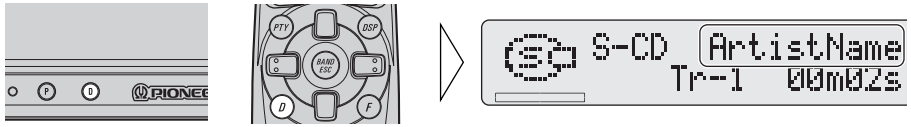
Switching the Display (only for CD TEXT Discs)

You can use this function when playing a CD TEXT disc.

Note:
- A CD TEXT disc is a CD featuring recorded text information such as Disc Title, Artist Name and Track Title.

Selecting the Display

- **Select the desired display.**



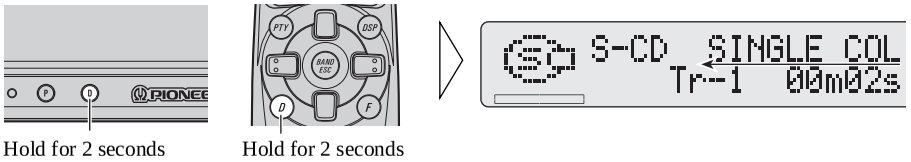
Each press of the DISPLAY button changes the display in the following order:

Disc Title → Artist Name → Track Title

Scrolling the Display

This unit displays the first 10 letters only of Disc Title, Artist Name and Track Title. With text longer than 10 letters, you can see the rest of the text by scrolling.

- **Scroll the display.**



Hold for 2 seconds Hold for 2 seconds

Note:
- You cannot input a disc title with a CD TEXT disc.

Entering the Function Menu

In this menu you can select built-in CD player functions.

- **Select the desired mode in the Function Menu.**

Each press changes the Mode ...

Each press of the FUNCTION button selects the mode in the following order:

Repeat → Random → Scan → Pause → COMP and DBE

To cancel the Function Menu, press the BAND button.

Note:
- After entering the Function Menu, if you do not perform an operation within about 30 seconds, the Function Menu is automatically canceled.

Entering the Detailed Setting Menu

In this menu you can perform Disc Title Input and PGM button settings.

- **Enter the Detailed Setting Menu.**

Hold for 2 seconds

Each press of the FUNCTION button selects the mode in the following order:

TitleInput* → PGM-key

* During play of a CD TEXT disc, you cannot switch to the “TitleInput” mode.

To cancel the Detailed Setting Menu, press the BAND button.

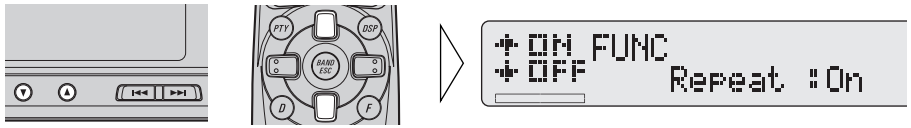
Note:

- You can cancel the Detailed Setting Menu by pressing the FUNCTION button again for 2 seconds or more.

Repeat Play

Repeat Play plays the same track repeatedly.

1. **Select the Repeat mode (Repeat) in the Function Menu.**
2. **Switch the Repeat Play ON or OFF.**



To cancel the Function Menu, press the BAND button.

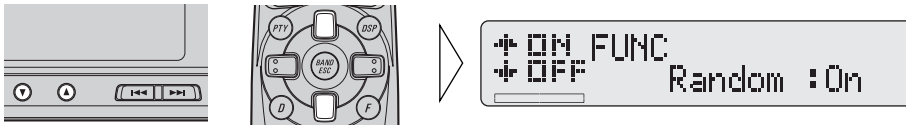
Note:

- If you perform Track Search or Fast-forward/Reverse, Repeat Play is automatically canceled.

Random Play

Random Play plays the tracks on a CD in random order for variety.

1. **Select the Random mode (Random) in the Function Menu.**
2. **Switch the Random Play ON or OFF.**



To cancel the Function Menu, press the BAND button.

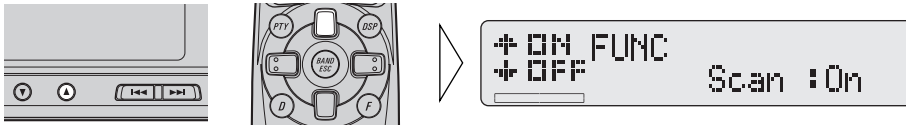
Note:

- Since playback is random, the same track may be repeated consecutively.

Scan Play

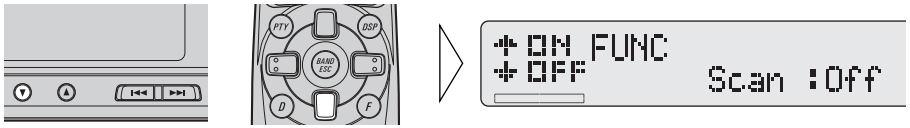
Scan Play plays the first 10 seconds or so of each track on a CD in succession.

1. **Select the Scan mode (Scan) in the Function Menu.**
2. **Switch the Scan Play ON.**



3. **When you hear the track you are looking for, cancel Scan Play.**

If the Function Menu is automatically canceled at this time, select the Scan mode in the Function Menu once more.



Playback of the current track continues.

To cancel the Function Menu, press the BAND button.

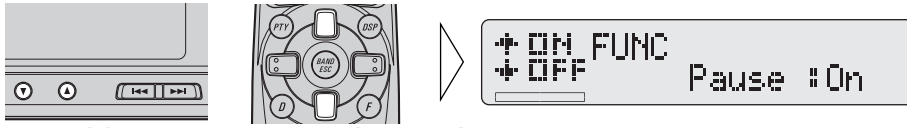
Note:

- Scan Play is canceled automatically after all the tracks on a disc have been scanned.

Using the Built-in CD Player

Pause

1. **Select the Pause mode (Pause) in the Function Menu.**
2. **Stop playback temporarily or restart the system.**



To cancel the Function Menu, press the BAND button.

CD Sound Quality Adjustment

COMP (Compression) and DBE (Dynamic Bass Emphasis) functions are available to adjust the sound quality of your multi-CD player. Each can be adjusted in two levels, but they cannot be used together.

● COMP

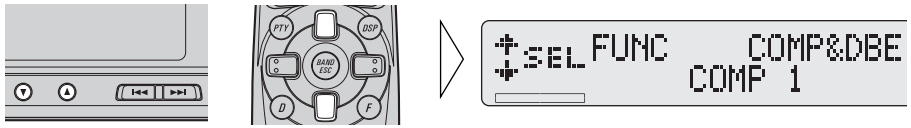
The COMP (Compression) function eliminates distortion caused by an imbalance between loud and subdued sounds at higher volumes.

● DBE

DBE (Dynamic Bass Emphasis) boosts bass level to give a fuller sound.

COMP/DBE ON/OFF Switching

1. **Select the COMP/DBE switching mode (COMP and DBE) in the Function Menu.**
2. **Select the desired mode in the following order:**



COMP OFF → COMP 1 → COMP 2 → COMP OFF → DBE 1 → DBE 2

To cancel the Function Menu, press the BAND button.

Disc Title Input

The built-in CD player's Disc Title Input function permits entry of up to 100 disc titles comprising up to 10 characters when one or more multi-CD players is installed.

Note:

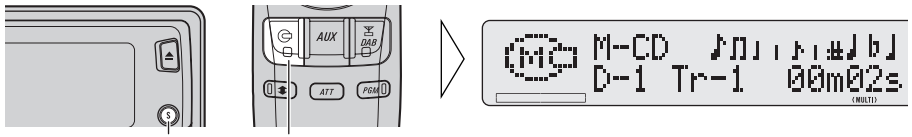
- During "CD TEXT" reproduction, you cannot switch to this mode.

Using Multi-CD Players

This product can control one or more multi-CD players. (There are some types of Multi-CD players such as the "CDX-P630S" which enable connection of a single unit only.)

Basic Operation of Multi-CD Players

1. **Select the multi-CD player source.**



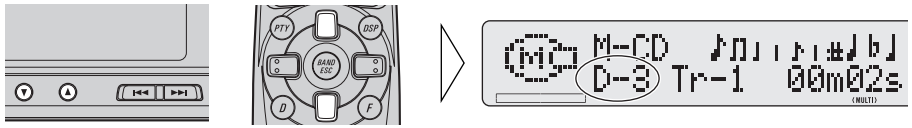
Each press changes the Source ...

Each press changes the Source ...

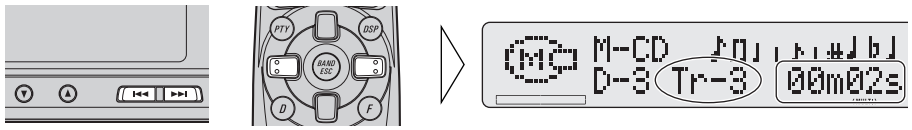
Note:

- The multi-CD player may perform a preparatory operation, such as verifying the presence of a disc or reading disc information, when the power is turned ON or a new disc is selected for playback. "READY" is displayed.
- If the multi-CD player cannot operate properly, an error message such as "ERROR-14" is displayed. Refer to the multi-CD player owner's manual.
- If there are no discs in the multi-CD player magazine, "NO DISC" is displayed.

2. **Select the desired disc.**



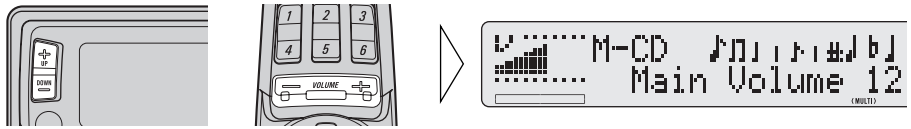
3. **Select the desired track (or fast-forward/reverse, per the chart below).**



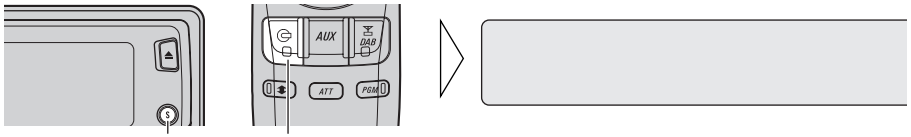
This product lets you select the track search function or fast-forward/reverse function by changing the length of time you press the button.

Track search	0.5 seconds or less
Fast-forward/Reverse	Continue pressing

4. Raise or lower the volume.



5. Turn the source OFF.



Hold for 1 second

Each press changes the Source ...

Playing Discs on a 50-Disc Type Multi-CD Player

When a magazine is loaded into a 50-Disc type multi-CD player, information on all the discs in the magazine is read.

If you start playing a disc on a 50-Disc type multi-CD player before reading of information on all discs has been completed, reading of information stops part way through. This will prevent you from using a number of functions. (If you try and use these functions, “NOT READY” is displayed.)

If this happens, reading of information begins again when you switch to a component other than 50-Disc type multi-CD player.

Switching the Multi-CD Player

It is possible to connect up to three multi-CD players by means of a multiple installation adapter. When two or more multi-CD players are installed, their priorities must be specified. Follow the multi-CD player instructions carefully, and set the address switches properly.

- **Select the multi-CD player you want to use.**

MAGAZINE 1 → MAGAZINE 2 → MAGAZINE 3

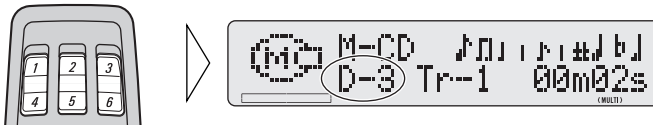
Disc Number Search

Disc Number Search (for 6-Disc 12 -Disc types)

You can select discs directly with the 1–6 buttons. Just press the number corresponding to the disc you want to listen to.

Note:
- When a 12-Disc Multi-CD Player is connected and you want to select disc 7 to 12, press the 1–6 buttons for 2 seconds or longer.

- **Select the desired disc. (e.g. Press button 3.)**



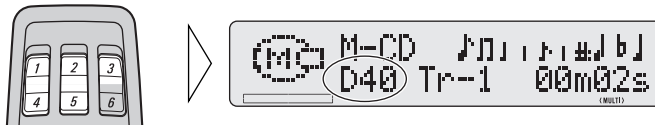
Disc Number Rough Search (for 50-Disc type only)

This handy function lets you select discs loaded in a 50-Disc Multi-CD Player using the 1–5 buttons. The 50 discs are divided into five blocks, with each of the 1–5 buttons assigned to a block.
For example, if you press button 1, discs 10 through 19 are searched in order, and then the disc with the lowest disc number is selected.

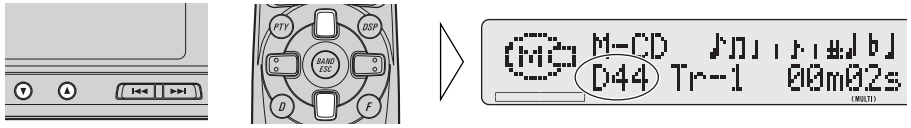
Note:
- Pressing button 5 lets you select the 50th disc only.
- Button 6 does not operate.
- Rough search of discs 1 to 9 is not possible. Use the ▲/▼buttons to select a desired disc.
- “NOW LOADING” will be displayed in the following cases:
  * If the disc in the extra tray is selected.
  * If the disc is moved from the extra tray to the magazine. (Refer to the 50-Disc type multi-CD player’s owner’s manual.)

Using Multi-CD Players

1. **Press the appropriate button from 1–5 to select the block containing the desired disc. (e.g. Press button 4.)**



2. **Select the desired disc.**



Entering the Function Menu

In this menu you can select Multi-CD Player functions.

- **Select the desired mode in the Function Menu.**

Each press
changes the Mode ...

Each press of the FUNCTION button selects the mode in the following order:

Repeat → ListSearch → ABC-Search* → Random → Scan → ITS-Play → Music Group* → Frequent* → Pause → COMP and DBE

* ABC-Search, Music Group and Frequent are 50-Disc type multi-CD player functions. You cannot switch to these modes when using 6-Disc and 12-Disc type multi-CD players.

To cancel the Function Menu, press the BAND button.

Note:

- With multi-CD players that do not feature COMP (Compression) and DBE (Dynamic Bass Emphasis) functions, “NO COMP” is displayed if you switch to the COMP mode.
- After entering the Function Menu, if you do not perform an operation within about 30 seconds, the Function Menu is automatically canceled.

Entering the Detailed Setting Menu

In this menu you can perform Disc Title Input, ITS Program, Music Group Input and PGM button settings.

- **Enter the Detailed Setting Menu.**

Hold for 2 seconds

Each press of the FUNCTION button selects the mode in the following order:

TitleInput → ITS → MG Input* → PGM-key

* MG Input is a 50-Disc type multi-CD player function. You cannot switch to this mode when using 6-Disc and 12-Disc type multi-CD players.

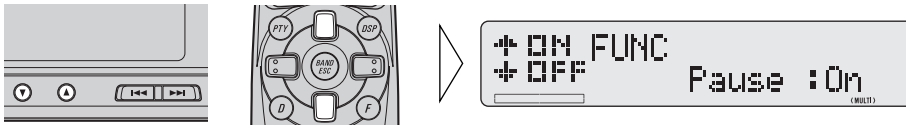
To cancel the Detailed Setting Menu, press the BAND button.

Note:

- You can cancel the Detailed Setting Menu by pressing the FUNCTION button again for 2 seconds or more.

Pause

1. **Select the Pause mode (Pause) in the Function Menu.**
2. **Stop playback temporarily or restart the system.**



To cancel the Function Menu, press the BAND button.

CD Sound Quality Adjustment

COMP (Compression) and DBE (Dynamic Bass Emphasis) functions are available to adjust the sound quality of your multi-CD player. Each can be adjusted in two levels, but they cannot be used together.
COMP and DBE can also be used with another multi-CD player which is equipped with these functions. If it is not so equipped, “NO COMP” is displayed when COMP/DBE switching is attempted.

● COMP

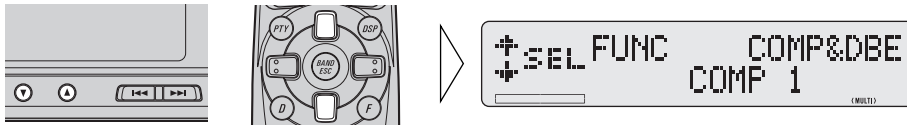
The COMP (Compression) function eliminates distortions caused by an imbalance between loud and subdued sounds at higher volumes.

● DBE

DBE (Dynamic Bass Emphasis) boosts bass levels to give fuller sounds.

COMP/DBE ON/OFF Switching

1. **Select the COMP/DBE switching mode (COMP and DBE) in the Function Menu.**
2. **Select the desired mode in the following order:**



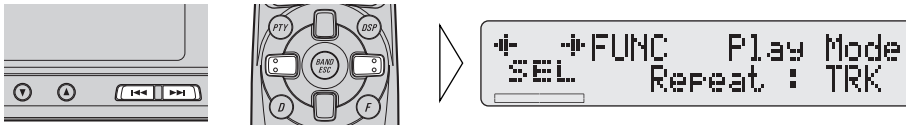
COMP OFF → COMP 1 → COMP 2 → COMP OFF → DBE 1 → DBE 2

To cancel the Function Menu, press the BAND button.

Multi-CD Player Repeat Modes

Multi-CD players offer four repeat modes: One-track Repeat, Disc Repeat, Multi-CD player Repeat and All Repeat. Multi-CD player Repeat is the default mode (normal play) when one or more multi-CD players is installed.

1. **Select the Repeat Selecting mode (Repeat) in the Function Menu.**
2. **Select the desired repeat mode in the following order:**



Multi-CD player Repeat (“MULTI” indicator lights) → ALL Repeat (Nothing) → One-track Repeat (“Repeat” is displayed) → Disc Repeat (“Repeat” is displayed and “DISC” indicator lights)

To cancel the Function Menu, press the BAND button.

Note:
- All Repeat is available only when two or more multi-CD players are installed.

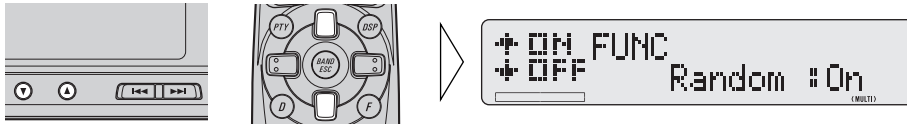
● Multi-CD Player Repeat Modes

Mode	Operation
One-track Repeat	Plays current track repeatedly. • When Track Search or fast forward/reverse is performed, the mode returns to the Disc Repeat mode. • When a different disc or multi-CD player is selected, the mode switches to the Multi-CD player Repeat mode.
Disc Repeat	Plays current disc repeatedly. • When a different disc or multi-CD player is selected, the mode switches to the Multi-CD player Repeat mode.
Multi-CD player Repeat (normal play)	Plays all discs loaded in the multi-CD player magazine repeatedly in order, starting with the first disc.
All Repeat	Plays all discs in the magazines of all multi-CD players in order.

Using Multi-CD Players

Multi-CD Player Random Play

1. **Select the Random mode (Random) in the Function Menu.**
2. **Switch the Random Play ON or OFF.**



When Multi-CD Player Random Play is ON, you can combine it with Repeat Mode to operate as shown below. Switching the Repeat Mode switches Random Play OFF.

To cancel the Function Menu, press the BAND button.

Note:
- Since playback is random, the same track may be repeated consecutively.

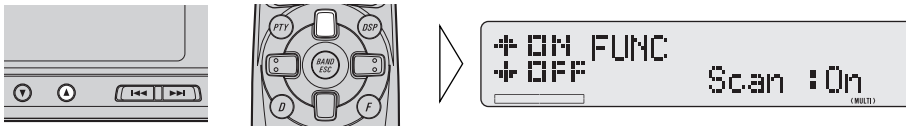
● Multi-CD Player Random Play Options

Mode	Operation
One-track Repeat	The mode returns to the Disc Repeat mode, and all tracks on the current disc are played randomly.
Disc Repeat “Random” + “DISC”	All tracks on the current disc are played randomly.
Multi-CD player Repeat “Random” + “MULTI”	All tracks on the discs in the multi-CD player magazine are played randomly.
All Repeat “Random”	All tracks on the discs in all the multi-CD players are played randomly.

Multi-CD Player Scan Play

When one or more multi-CD players are installed, the first 10 seconds or so of each track on a disc are scanned in the One-track Repeat and Disc Repeat modes and the first tracks of each disc in the multi-CD player Repeat and All Repeat modes.

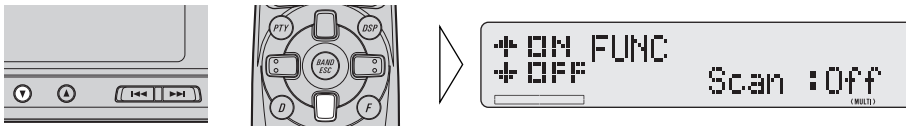
1. **Select the Scan mode (Scan) in the Function Menu.**
2. **Switch the Scan Play ON.**



When multi-CD player Scan Play is switched ON and combined with the Repeat Mode, it operates as shown in the following chart. If the Repeat Mode is switched, Scan Play switches OFF.

3. **When you hear the track you are looking for, cancel Scan Play.**

If the Function Menu has been canceled automatically, select the Scan mode in the Function Menu again.



Playback of the current track or disc will continue.

To cancel the Function Menu, press the BAND button.

Note:
- Scan Play is canceled automatically after all the tracks or discs have been scanned.

● Multi-CD Player Scan Play Options

Mode	Operation
One-track Repeat	The mode returns to the Disc Repeat mode, and all tracks on the current disc are scanned.
Disc Repeat “Scan” + “DISC”	All tracks on the current disc are scanned.
Multi-CD player Repeat “Scan” + “MULTI”	The first tracks of all the discs in the multi-CD player magazine are scanned.
All Repeat “Scan”	The first tracks of all the discs in the magazines of all the installed multi-CDs are scanned.

ITS (Instant Track Selection)

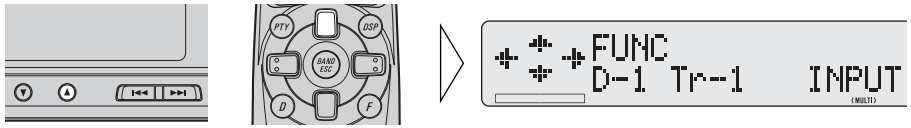
The ITS function allows you to search for the track you wish to play when one or more multi-CD players are installed. You can use ITS to program automatic playback of up to 24 tracks per disc from up to 100 discs. (You can store ITS program and Disc Title data for up to 100 discs in memory. With a 50-Disc type multi-CD player, you can also store Music Group data.)

Using Multi-CD Players

ITS Programming

ITS programming can be conducted in any multi-CD player playback mode except ITS playback.

1. **Play the track you wish to program.**
2. **Select the ITS Programming mode (ITS) in the Detailed Setting Menu.**
3. **Program the desired track.**



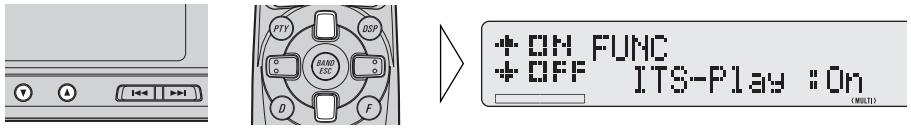
To cancel the Detailed Setting Menu, press the BAND button.

Note:
- After 100 discs have been programmed, data for a new disc will overwrite the data for the disc that has not been played back for the longest time.

ITS Playback

ITS playback can be performed in any repeat mode.

1. **Select the ITS Playback mode (ITS-Play) in the Function Menu.**
2. **Switch the ITS Playback ON or OFF.**



When ITS Play is ON, you can combine it with Repeat Mode to operate as shown below. If you change Repeat Mode into One-track Repeat, ITS Play will be turned OFF.
The ITS programmed tracks are played back in order from first to last.

To cancel the Function Menu, press the BAND button.

Note:
- If no track in the current range is programmed for ITS playback, “ITS EMPTY” is displayed.

● Multi-CD Player ITS Play

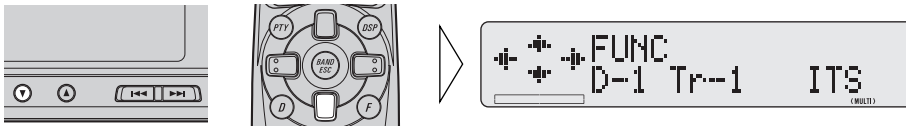
Mode	Operation
One-track Repeat	The mode returns to the Disc Repeat mode and all programmed tracks on the current disc are played.
Disc Repeat “ITS” + “DISC”	All programmed tracks on the current disc are played.
Multi-CD player Repeat “ITS” + “MULTI”	All programmed tracks on the discs in the multi-CD player magazine are played back. • If there are no programmed tracks on the current disc, ITS advances to the next disc.
All Repeat “ITS”	The programmed tracks on all the discs in the magazines of all the installed multi-CD are played back. • If there are no programmed tracks on the current disc (or multi-CD player), ITS advances to the next disc (or multi-CD player).

Erasing ITS Programs

ITS programs for up to 100 discs are stored permanently until you erase them.

● Erase a Track Program

1. **Select the track you wish to erase, during ITS playback.**
2. **Select the ITS Programming mode (ITS) in the Detailed Setting Menu.**
3. **Erase the track program.**



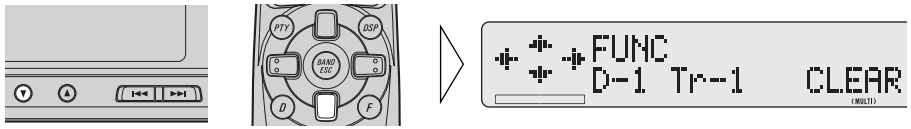
ITS is canceled and playback of the next ITS-programmed track begins. If there are no more programmed tracks in the current range, “ITS EMPTY” is displayed and normal playback resumes.

To cancel the Detailed Setting Menu, press the BAND button.

Using Multi-CD Players

● Erase a Disc Program

1. **Select the disc you wish to erase, while the disc is playing.**
2. **Select the ITS Programming mode (ITS) in the Detailed Setting Menu.**
3. **Erase the disc program.**



To cancel the Detailed Setting Menu, press the BAND button.

Disc Title Input

You can input Titles up to 10 characters long for up to 100 discs. Using this function lets you easily search for and select a desired disc for play. (You can store ITS program and Disc Title data for up to 100 discs in memory. With a 50-Disc type multi-CD player, you can also store Music Group data.)

1. **Play the disc you wish to input the disc title.**
2. **Select the Disc Title Input mode (TitleInput) in the Detailed Setting Menu.**
3. **Switch the Alphabet modes.**

Each press changes the Mode ...

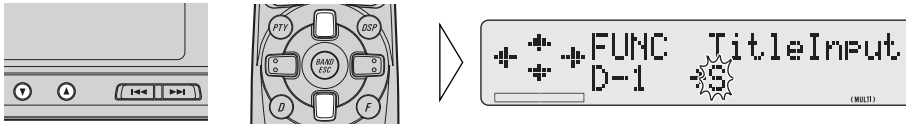
Each press of the button 1 changes the mode in the following order:

Alphabet (Upper case), Numbers and Symbols → Alphabet (Lower case) → European letters, such as those with accents (e.g. á, à, ä, ç)

Note:

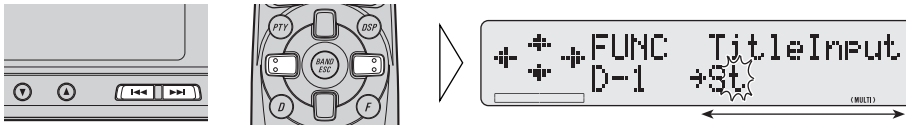
- You can switch to the Numbers and Symbol mode by pressing button 2.

4. **Select a letter, number or symbol.**

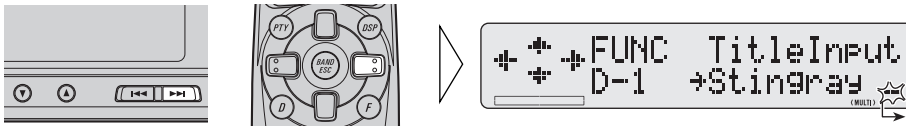


To insert a space, select the flashing cursor.

5. **Reverse or advance box by box.**



6. **When the title is completed, store it in memory to make the flashing cursor fade out.**



To cancel the Detailed Setting Menu, press the BAND button.

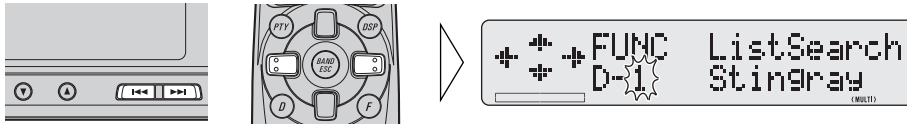
Note:

- Titles remain in memory, even after the disc has been removed from the magazine, and are recalled when the disc is reinserted.
- After the titles for 100 discs have been entered, data for a new disc will overwrite the data for the disc that has not been played back for the longest time.

Selecting Discs by Disc Title List

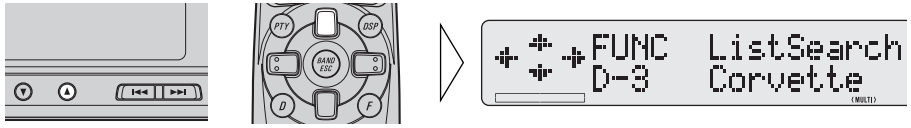
Follow the procedures below to play a disc for which you have input the title in a multi-CD player:

1. **Select the Disc Title List mode (ListSearch) in the Function Menu.**
2. **Each time you press the ◄ or ► button, titles in the current disc magazine are displayed in the order of their disc numbers.**



Nothing is displayed for discs whose titles have not been input.

3. **Select the desired disc for playback by pressing the ▲ button when its title is displayed.**

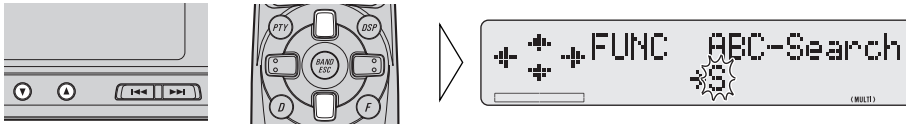


To cancel the Function Menu, press the BAND button.

Selecting Discs Using "ABC" Disc Title Search (for 50-Disc type only)

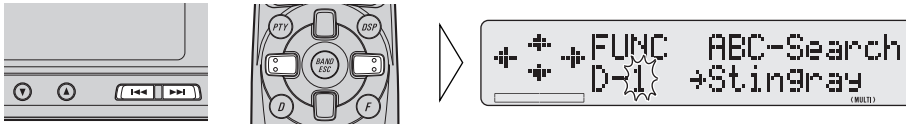
You can search for and select a disc by searching for the first letter of the desired disc's Disc Title.

1. **Select the "ABC" Disc Title Search mode (ABC-Search) in the Function Menu.**
2. **Select the desired first letter.**



3. **Select the desired disc title.**

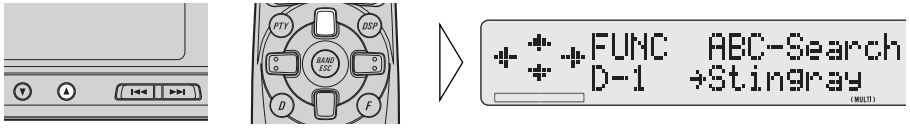
Each time you press the button, titles with the selected first letter are displayed in the order of their disc numbers.



Note:

- When there are no disc titles starting with the letter you selected, "NO TITLE" is displayed.
- Press the ▼ button to return to selection of the first letter.

4. **Select the desired disc for playback by pressing the ▲ button when its title is displayed.**



To cancel the Function Menu, press the BAND button.

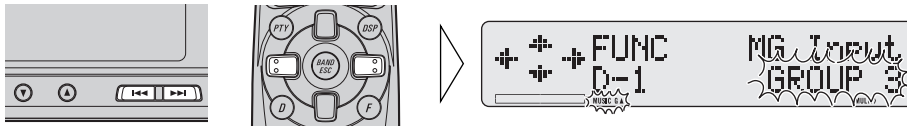
Music Group Play (for 50-Disc type only)

The Music Group Play function classifies discs loaded in a 50-Disc type multi-CD player into 10 groups, and plays only discs from the same group. Up to 100 discs can be classified into groups. (Music Group, ITS program and Disc Title data for up to 100 discs can be stored in memory.)

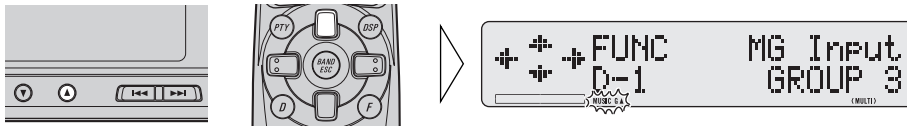
Note:
- Music Group types are as follows:
  ROCK 1, ROCK 2, POP, JAZZ, INSTRMNT, CLASSIC, GROUP 1, GROUP 2, GROUP 3, GROUP 4

Classifying a Disc into a Group

1. **Play the disc you want to classify into a group.**
2. **Select the Music Group Input mode (MG Input) in the Detailed Setting Menu.**
3. **Select the desired group.**



4. **Register the disc in the selected group.**



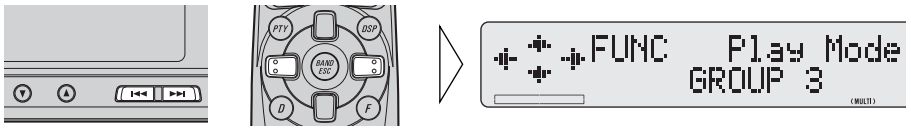
To cancel the Detailed Setting Menu, press the BAND button.

Note:
- Even if you remove a disc from a magazine after you have registered it in a group, its assigned group is stored in memory. This means that when you reinsert the disc in the magazine, there's no need to reassign it to the group.
- After assigning 100 discs to groups, data input for a new disc overwrites data for the disc that has been played least recently.

Music Group Playback

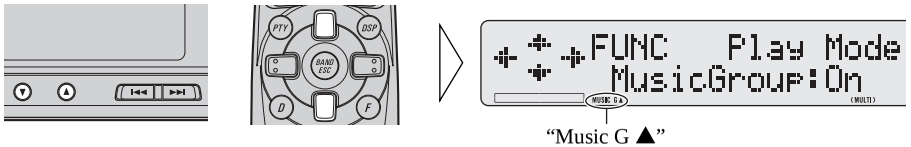
Only discs in the same group are played.

1. **Select the Music Group Playback mode (Music Group) in the Function Menu.**
2. **Select the desired Music Group.**



Note:
- At first, the group of the disc playing is displayed. If the disc playing does not belong to a group, "NO GROUP" is displayed.

3. **Switch music group playback ON or OFF.**



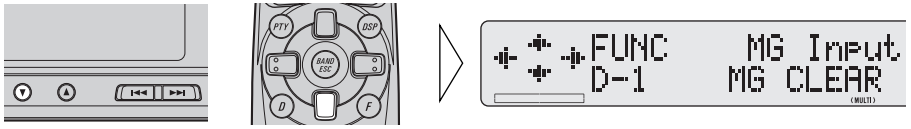
"Music G ▲"

To cancel the Function Menu, press the BAND button.

Note:
- If there are no discs registered in the selected group, "MG EMPTY" is displayed.

Deleting a Disc from a Music Group

1. **Play the disc you want to delete from a group.**
2. **Select the Music Group Input mode (MG Input) in the Detailed Setting Menu.**
3. **Delete the disc from the group.**



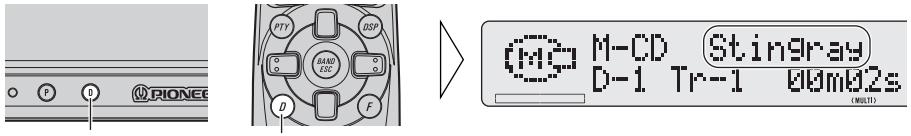
To cancel the Detailed Setting Menu, press the BAND button.

Note:
- During music group playback, if you have deleted the disc currently playing from the group, the next disc in the group is played. If all discs in the same group have been deleted, "NO GROUP" is displayed.

Displaying Disc Title or Music Group (for 50-Disc type only)

You can display the Disc Title or Music Group of the disc playing.

- **Select the desired display.**



Each press changes the Display ...

Each press changes the Display ...

Each press of the DISPLAY button changes the display in the following order:

Disc Title → Music Group

Note:

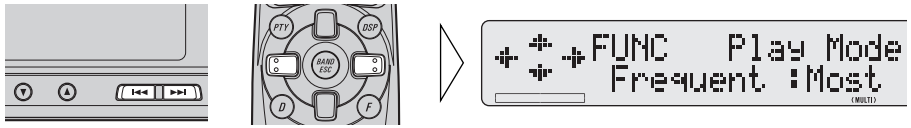
- When playing a disc that does not have a title, if you switch to Disc Title display, “No Title” flashes for 4 seconds, and then the display returns to the previous indications.
- When playing a disc that doesn’t belong to a group, if you select Music Group display, “NO GROUP” flashes for 4 seconds, and then the display returns to the previous indications.

Frequency Play (for 50-Disc type only)

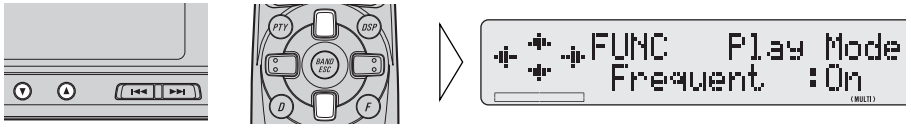
The Frequency Play Function plays discs in order, from the most frequently played disc to the least frequently played disc, or vice versa.

1. **Select the Frequency Playback mode (Frequent) in the Function Menu.**
2. **Select the desired play order.**

   For play of discs in order starting with the most frequently played disc, select “Most”. For play of discs in order starting with the least frequently played disc, select “Least”.



3. **Switch Frequency playback ON or OFF.**



To cancel the Function Menu, press the BAND button.

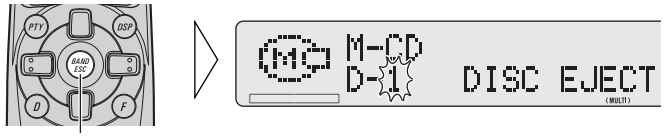
Note:

- During Frequency Playback, pressing the ▲ or ▼ button changes to the previous or next disc in the frequency order.

Ejecting a Single Disc (for 50-Disc type only)

This function lets you eject discs one at a time from a 50-Disc multi-CD player .

1. **Play the disc you want to eject.**
2. **Move the disc to the extra tray.**



Hold for 2 seconds

3. **Remove the disc from the extra tray.**

   (Refer to the 50-Disc type multi-CD player’s owner’s manual.)

Note:

- This function does not operate if a disc is already loaded in the extra tray.

Specifications

General

Power source ..... 14.4 V DC (10.8 – 15.1 V allowable)
Grounding system ..... Negative type
Max. current consumption ..... 10 A
Dimensions
(mounting size) ..... 178 (W) × 50 (H) × 155 (D) mm
(front face) ..... 188 (W) × 58 (H) × 20 (D) mm
Weight ..... 1.8 kg

Amplifier

Maximum power output ..... 40 W × 4
Continuous power output ..... 25 W × 4
(DIN45324, +B = 14.4 V)
Load impedance ..... 4 Ω (4 – 8 Ω allowable)
Preout output level/output impedance ..... 500 mV/1 kΩ

CD player

System ..... Compact disc audio system
Usable discs ..... Compact disc
Signal format ..... Sampling frquency: 44.1 kHz
Number of quantization bits: 16; linear
Frequency characteristics ..... 5 – 20,000 Hz (±1 dB)
Signal-to-noise ratio ..... 112 dB (1 kHz) (IEC-A network)
Dynamic range ..... 98 dB (1 kHz)
Number of channel ..... 2 (stereo)

FM tuner

Frequency range ..... 87.5 – 108 MHz
Usable sensitivity
..... 11 dBf (1.0 µV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity .... 16 dBf (1.7 µV/75 Ω, mono)
Signal-to-noise ratio ..... 70 dB (IEC-A network)
Distortion ..... 0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response ..... 30 – 15,000 Hz (±3 dB)
Stereo separation ..... 40 dB (at 65 dBf, 1 kHz)

MW tuner

Frequency range ..... 531 – 1,602 kHz
Usable sensitivity ..... 18 µV (S/N: 20 dB)
Selectivity ..... 50 dB (±9 kHz)

LW tuner

Frequency range ..... 153 – 281 kHz
Usable sensitivity ..... 30 µV (S/N: 20 dB)
Selectivity ..... 50 dB (±9 kHz)

DSP

Equalizer (13 Band Graphic Equalizer)
Frequency ..... 50, 80, 125, 200, 315, 500, 800, 1.25 k, 2 k, 3.15 k, 5 k, 8 k, 12.5 k (Hz)
Level ..... ± 12 dB (2 dB)
Auto Equalizer (STD Mode)
(Front and Rear and Subwoofer 13 band graphic + Rear 2 band parametric)
Frequency (Front and Rear and Subwoofer)
..... 50, 80, 125, 200, 315, 500, 800, 1.25 k, 2 k, 3.15 k, 5 k, 8 k, 12.5 k (Hz)
Frequency (Rear) ..... 100 Hz – 8 kHz (1/3 oct)
Level ..... +6 — –12 dB (2 dB)
Q Factor (Rear) 1.2, 3.6
Auto Equalizer (PRO Mode)
(13 band graphic)
Frequency ..... 50, 80, 125, 200, 315, 500, 800, 1.25 k, 2 k, 3.15 k, 5 k, 8 k, 12.5 k (Hz)
Level ..... +6 — –12 dB (2 dB)
Network (STD Mode)
Front/Rear ..... HPF frequency: 50, 80, 125, 200 (Hz)
Slope: 0, –6, –12 dB/oct
Level: 0 — –24 dB (1 dB)
Subwoofer (Mono)
..... LPF frequency: 50, 63, 80, 100, 125, 160, 200 (Hz)
Slope: –6, –12, –18 dB/oct
Level: +6 — –24 dB (1 dB)
Phase: Normal/Reverse
Network (PRO Mode)
High ..... HPF frequency: 2 k, 2.5 k, 3.15 k, 4 k, 5 k, 6.3 k, 8 k, 10 k, 12.5 k (Hz)
Slope: –6, –12, –18, –24 dB/oct
Level: +6 — –24 dB (1 dB)
Phase: Normal/Reverse
Mid ..... LPF frequency: 2 k, 2.5 k, 3.15 k, 4 k, 5 k, 6.3 k, 8 k, 10 k, 12.5 k (Hz)
HPF frequency: 40, 50, 63, 80, 100, 125, 160, 200, 250 (Hz)
Slope: 0, –6, –12, –18, –24 dB/oct
Level: 0 — –24 dB (1 dB)
Phase: Normal/Reverse
Low (Stereo/Mono)
..... LPF frequency: 40, 50, 63, 80, 100, 125, 160, 200, 250 (Hz)
Slope: –12, –18, –24, –30, –36 dB/oct
Level: +6 — –24 dB (1 dB)
Phase: Normal/Reverse
Time Alignment ..... 0 — 400 cm (2 cm)
0 — 160 inch (0.5 inch)

Note:

- Specifications and the design are subject to possible modification without notice due to improvements.